DOCUMENT RESUME

ED 458 340 UD 034 560

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TITLE Paving the Way to Postsecondary Education: K-12 Intervention Programs for Underrepresented Youth. Report of the National Postsecondary Education Cooperative Working Group on Access to Postsecondary Education.
INSTITUTION National Postsecondary Education Cooperative.
SPONS AGENCY National Center for Education Statistics (ED), Washington, DC.
REPORT NO NCES-2001-205
PUB DATE 2001-09-00
NOTE 177p.; With Deborah Bial.
AVAILABLE FROM ED Pubs, P.O. Box 1398, Jessup, MD 20794-1398. Tel: 877-433-7827 (Toll Free); Web site: http://www.nces.ed.gov/pubsearch/index.asp.
PUB TYPE Reports - Evaluative (142)
EDRS PRICE MF01/PC08 Plus Postage.
DESCRIPTORS *Access to Education; College Bound Students; *College Preparation; Elementary Secondary Education; Equal Education; *Higher Education; *Minority Group Children; Program Effectiveness; Program Evaluation; Secondary Education; Transitional Programs

ABSTRACT

This report presents data from published literature, surveys of state higher education executive officers and chief school officers, and information from foundations, government, and other agencies and organizations regarding access to higher education for under-represented youth. It maps the field of K-12 postsecondary education bridge program types and features, identifying and reviewing selected K-12 postsecondary education college access programs with analytical data that describe how programs work, based on needs and problems identified in the literature. It also identifies information needed to evaluate K-12/postsecondary education bridge programs. Common features among effective programs include providing a key person to mentor students over time; providing high quality instruction through untracking and special coursework; considering students' cultural backgrounds; providing peer support; and providing financial assistance and incentives. Program limitations include attrition, participant selection, academic achievement, type of postsecondary institution, and costs. Few programs have completed thorough evaluation of their activities. Overall, the programs have little effect on academic achievement. They augment what schools do but do not fundamentally change how schools interact with students. Three appendixes include a review of the literature on opportunities to learn, a list of programs for which information was submitted, and program descriptions. (Contains 148 references.) (SM)

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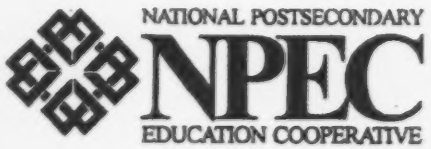
Paving the Way to Postsecondary Education: K–12 Intervention Programs for Underrepresented Youth

Report of the National Postsecondary Education Cooperative Working Group on Access to Postsecondary Education



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Paving the Way to Postsecondary Education: K–12 Intervention Programs for Underrepresented Youth

Report of the National Postsecondary Education Cooperative Working Group on Access to Postsecondary Education

Prepared for the National Postsecondary Education Cooperative (NPEC) and its Working Group on Access by Patricia Gándara with Deborah Bial, under the sponsorship of the National Center for Education Statistics (NCES), U.S. Department of Education.

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U.S. Department of Education, National Center for Education Statistics. *Paving the Way to Postsecondary Education: K-12 Intervention Programs for Underrepresented Youth*, NCES 2001-205, prepared by Patricia Gándara with the assistance of Deborah Bial for the National Postsecondary Education Cooperative Access Working Group. Washington, DC: 2001.

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FORWORD

This report is a product of the National Postsecondary Education Cooperative (NPEC). NPEC was authorized by Congress in 1994 and is supported by the National Center for Education Statistics. NPEC's overarching mission is to promote better decisions through better data. This report was undertaken as part of NPEC's work in the area of access to postsecondary education.

Fifteen individuals with extensive research and/or experiential backgrounds in the issues surrounding access to postsecondary education were brought together. They were charged with developing a project that would explore a relatively uncharted set of concerns in the area of access. After much deliberation, this "working group" decided there was a critical need for evaluative data and information on the effectiveness of K-12 intervention programs designed specifically to increase access to postsecondary education for underrepresented youths. The working group also recognized the heavy burden this lack of data placed on policymakers interested in funding early intervention programs.

While it was clear that program evaluation, per se, was not within the purview of NPEC, it was felt that a study identifying the data infrastructure necessary for adequately evaluating early intervention programs was within NPEC's mandate and operating policies and would also make a significant contribution to policy and practices in postsecondary education. This report chronicles the results of that study.

The report was reviewed and accepted by the NPEC Steering Committee as meeting NPEC's standards and policies. We hope that by making the results of this study available to the postsecondary community, we can facilitate the work of those involved in early intervention programs and those funding these programs.

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ACKNOWLEDGMENTS

The National Postsecondary Education Cooperative would like to take this opportunity to thank the members of the working group for contributing their time, enthusiasm, insights, and expertise to this project and this report, especially the chairperson, Sharon Thomas-Parrott. We would also like to thank all those individuals who reviewed this report. They included members of the NPEC Steering Committee, William Kramer, Vice President for Planning and Education, Ivy Tech State College, a member of the NPEC Council, Dennis Carroll of NCES, Denise Glover of Westat, and the following three individuals who were asked to provide an independent review of the report:

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   University of California, Los Angeles

Finally, we would like to thank those individuals working with the K-12 programs that were identified in this study. They shared their work with the authors and provided the information that made this report possible.

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EXECUTIVE SUMMARY

Background to the Study

The United States has changed dramatically in the past three decades. While in 1970, 87.5 percent of the population was classified as white, non-Hispanic, in 1998, 72 percent of Americans fell into this category, and as a group, they are older than all others. Analyzing population changes and postsecondary enrollments shows that college-going rates for most minority groups are low. Since the mid-1970s, modest improvements have occurred for some underrepresented groups, although rates have not improved for others. For example, while 33.5 percent of black high school graduates between ages 18 and 24 were enrolled in postsecondary institutions (both 2- and 4-year) in 1976, it was not until 1992 that a similar percentage of black students again enrolled. By 1997, almost 40 percent of blacks in the traditional college-age group were enrolled in college. On the other hand, in 1997, Hispanics had only finally returned to a level of enrollment that was equivalent to 1976 (35.8 versus 36.0 percent in 1997), but the Hispanic population had increased by more than 200 percent during that time (U.S. Department of Commerce, 2000). By contrast, 45 percent of whites in the same age group enrolled in college in 1997 compared to just 33 percent in 1976 (Wilds, 2000).

Since the mid-70s, college-going rates for white, non-Hispanic students have increased significantly. In contrast, despite progress in the 1990s, students from historically underrepresented minority groups have not experienced substantial increases in college-going rates. Improving their college-going rates is an issue of growing urgency for colleges, universities, and states.

The Challenge

More and more, institutions are turning to special programs designed to better prepare underrepresented students for college. Although thousands of early intervention programs exist across the nation, data about whether they work, or for whom and under what circumstances, are generally sparse. These programs represent a significant beacon of hope for many young people, and having better information about the programs can be beneficial to all levels of education. This report approaches that task by:

1. Mapping the field of K-12 postsecondary education bridge program types and features using a typology to categorize strategies.

2. Identifying and reviewing selected K-12 postsecondary education college access programs with analytical data that provide information on how programs work and under what conditions based on needs and problems identified in the literature.

3. Identifying information and data that are needed to evaluate K-12/postsecondary education bridge programs to inform future analytic efforts.

Effective Program Practices

From a review of evaluation studies of early intervention programs, the most effective programs appear capable of at least doubling the college-going rate of participants. Students and families report that these programs open both eyes and doors to postsecondary possibilities. The programs that appeared to be the most effective had the following elements in common:

- Providing a key person who monitors and guides the student over a long period of time—a "mentor," program director, faculty member, or guidance counselor. Studies are not clear on which of these is most effective.

- Providing high-quality instruction through access to the most challenging courses offered by the school ("untracking"), through special coursework that supports and augments the regular curricular offerings (tutoring and specially designed classes), or by revamping the curriculum to better address the learning needs of the students.

- Making long-term investments in students rather than short-term interventions. The longer students were in the program, the more likely they were reported to benefit from it.

- Paying attention to the cultural background of students. Many programs reported having greater success with one group of students than another; it is likely that background and expertise of the staff and directors helped them to make cultural connections with students.

- Providing a peer group that supports students' academic aspirations as well as giving them social and emotional support.

- Providing financial assistance and incentives. Financial assistance is important for access to academic leveling experiences—college visits and SAT preparation courses—as well as to monetary support to make college a realistic possibility for some students. Scholarships make the difference between going to college or not for many low-income students (Thomas, 1998; St. John, 1990).

Program Limitations

Limitations for many of these program efforts included the following:

- **Program attrition.** Few programs either report or know how many students who begin their program actually complete it. The authors estimate that between one-third and one-half of all students who begin programs leave before completion or before high school graduation. Nonetheless, programs commonly report high percentages of participants going on to college based on counting only the number of participants in the graduating class.

- **Smaller number of students affected.** Because of costs and the labor-intensive nature of the services provided, few students in any given school are normally included in such a program. Based on *High School and Beyond* data, Adelman (2000) estimates that no

more than 11.4 percent of black and 5.3 percent of Hispanic students participate, *at any level*, in such programs.

- **Participant selection.** Few programs were explicit about how students were selected to participate and about the characteristics of the most successful participants. This kind of information is critically important in evaluating who can best benefit from the program.

- **Participation of males.** Boys are seriously underrepresented in these programs. Generally, only about one-third of participants are males.

- **Records on program contact.** Few programs keep records on the amount of contact participants have with the program. Similarly, programs are often vague about what constitutes completion or retention in the program. Without this information it is difficult to know if a program can be credited for student outcomes, or if outcomes should be attributed to other factors.

- **Sector approach.** Programs are usually nonsystemic. Since most programs serve only one sector of the K-12 system, services are noncontinuous. Without continuous intervention, gains made at one level may be lost at the next.

- **Academic achievement.** While some programs were able to demonstrate that they doubled college-going rates among their participants (compared to controls), evidence that programs are effective in raising academic achievement as measured by grades or test scores is limited.

- **Type of postsecondary institution.** Because overall measured achievement is not generally considered, these programs are most effective at increasing college-going to community colleges and less selective 4-year colleges. They do not appear to have a major impact on increasing the numbers of students who go on to selective colleges and universities who would not otherwise have qualified to do so.

- **Long-term outcomes.** Little is known about long-term outcomes for students. Most programs do not have data that show if they increase the rates at which participants obtain college degrees when compared to students who have not participated in the program.

- **Costs.** Little is reported about the costs of these programs. This review does not provide information to discern a relationship between costs and outcomes.

Program Evaluation

Perhaps most troubling was the finding that few programs had engaged in a thorough evaluation of their activities. Programs commonly operated on the assumption that they were effective, but data were not available to support that belief. Evaluation may be viewed as a threat to the program rather than a means to improve it, document its effectiveness, or better understand how it works. Because of the widespread absence of evaluation, many questions are left unanswered:

- How effective are most of these programs at meeting their goals of increasing college-going rates when participants are compared to similar students who have not been enrolled in such a program?
- While careful monitoring and guidance of students is clearly beneficial, who might most effectively provide this service—teaching staff, counselors, mentors, or specialized program staff?
- How can programs increase their impact on student achievement?
- How can programs most effectively stem student attrition?
- What happens to graduates of these programs after they matriculate in college? Are students equipped to succeed in a college environment?
- How can programs maximize their resources? Which features of the programs are most (cost) effective?

To answer these questions, it is important that programs take the following steps:

- Collect baseline data on program participants and comparisons
  - Were there differences between participants and comparison students before the program intervention?
- Monitor and report program attrition
  - How many students are lost along the way?
- Carefully match control groups (assuming random assignment of participants is not possible) and report differences
- Give attention to measuring the outcomes that the program purports to be affecting
- Attend to program features and outcomes
  - What specific features of the program are most responsible for its effects?
  - What attracts students to the program and fosters their retention?

Connecting Programs with School Reform Efforts

It should not be surprising that these early intervention programs appear to have little effect on academic achievement. The programs, whether community based, school district sponsored, or partnered with postsecondary education, tend to be peripheral to the K-12 schools. They augment and supplement what schools do, but do not fundamentally change the ways schools interact with students.

Thus, while some successful programs work to emulate the features of prep schools that routinely send high percentages of their graduating students on to college, they only do it for part of the day, and often outside of school time. The rest of the time, students are exposed to the same school practices that have been proven to be unsuccessful for them. Intervention programs tend to help students maximize their assets, expand their goals, and show evidence of doubling the college-going rate of their participants, but do not appreciably alter their academic achievement. For changes in academic achievement to occur, schools should consider adopting many of the practices of the early intervention programs.

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1. INTRODUCTION AND BACKGROUND

This monograph was written in a period of exceptional prosperity in the United States. Unemployment is currently at its lowest point in decades and per capita income is on the rise. Overall funding for education, both at the federal and state levels, has been increasing. Despite this prosperity, about one-fifth of the country's children live in poverty. Moreover, the United States is a nation in which opportunity is distributed, to some extent, along color lines, and family background may determine if and where bright and talented young people go to college. Exacerbating this problem is a widespread belief that the pathway to postsecondary education has been leveled, and that anyone willing to work hard enough can "make it." In reality, the path is well paved for some students by generations of family members who have preceded them to college, while for others there is no discernable path at all.

Because of dramatic demographic shifts, addressing the persistent and, in some cases, growing discrepancies in educational opportunity among particular groups of young people is essential for the social and economic well-being of the United States. The purpose of this report is to review and synthesize what is known about efforts currently underway in K-12 education to increase the chances that underrepresented youth will be able to participate successfully in postsecondary education.

Section 1 introduces the challenges in equalizing educational opportunity and suggests why early intervention programs have been proliferating in recent years. Section 2 introduces the issue of group differences in educational achievement and attainment and summarizes what is known about the probable impact of specific program features on particular educational problems. Section 3 summarizes the methods that were employed in this study, and Section 4 provides a taxonomy of features of intervention programs. The taxonomy provides the basis for understanding what programs are trying to accomplish. Section 5 focuses on a review of evaluations conducted on 13 programs with conclusions about "what works" and, in some cases, under what conditions these strategies are likely to have the greatest impact. This section also provides an analysis of what is *knowable* given the limitations of these evaluation studies. Section 6 is a brief summary of the foregoing with conclusions. Appendix A is a review of the literature on group difference in education achievement and attainment introduced in Section 2. Appendix B summarizes some sources of information, and Appendix C provides detail about the programs that were reviewed for this study.

Background and Diversifying the Nation's Colleges

After significant progress in increasing the college-going rates for underrepresented youth and diversifying the nation's colleges and universities during the 1970s, little progress occurred in the following two decades. Data suggest that the 1980s represented a period of decline in college-going rates for underrepresented students (Wilds, 2000). Only in the 1990s did colleges regain lost ground. For example, while 33.5 percent of black high school graduates between ages 18 and 24 were enrolled in postsecondary institutions (both 2- and 4-year) in 1976, it was not until 1992 that black students again enrolled at an equivalent rate. By 1997, almost 40 percent of blacks in the traditional college-age group were enrolled in college. On the other hand, in 1997 Hispanics had only finally returned to the level of enrollment that was equivalent to 1976 (35.8 versus 36.0 in 1997), but the Hispanic population had increased by more than 200 percent since that time (U.S. Department of Commerce, 2000).

By contrast, 45 percent of whites in the same age group enrolled in college in 1997 compared to just 33 percent in 1976 (Wilds, 2000). Progress in college enrollment rates for white students has been substantial, but the same cannot be said for students from historically underrepresented

groups. Since 1990 enrollment rates have been improving for underrepresented groups, however, given the rapid shifts in demographics in the United States, increasing the enrollment rates for traditionally underrepresented students is a matter of growing urgency.

U.S. Demographic Shifts

The United States has changed dramatically since the early 1970s. While in 1970, 87.5 percent of the population was classified as white, non-Hispanic, in 1998 72 percent of Americans fell into this category, and as a group they are older than all others, with a median age of 37 years. Nationwide, the Hispanic population is the fastest growing, accounting for 11.4 percent of all Americans in 1998. The youthfulness of the group (a medium age of 26 years) and its fertility rate, which is the highest of all major groups, combined with sustained immigration, means that the Hispanic population will continue to grow at a disproportionately high rate in the coming years (del Pinal and Singer, 1997). Sometime shortly after the turn of the millennium, Hispanics will have become the nation's largest minority group. Asians have also registered a significant increase in their numbers over the last four decades, from only 0.5 percent of the population in 1960 to 3.7 percent in 1998. Most of this growth can be attributed to immigration made possible by the liberalization of U.S. immigration law in 1965. Blacks and Native Americans have maintained a relatively stable proportion of the population, with 12.7 percent and 0.8 percent, respectively (U.S. Department of Commerce, 2000).

Nationwide trends are amplified considerably in the states with the highest immigration rates. For example, in California, which receives about 40 percent of the nation's immigrants, white students are a minority among school-age children, representing about 38 percent of public school students. Hispanics are now the largest single population group in California's public schools at 41 percent, and Asians are the second largest nonwhite group, with more than 11 percent of the state's K-12 students. Blacks represent fewer than 9 percent of students (California Department of Education, 1999).

Access to Postsecondary Education

Gaining access to college is important, but it is only part of the story. *Where* students go to college is almost equally important. There is considerable difference among ethnic groups in the types of postsecondary institutions that students attend. Lower income black and especially Hispanic students are much more likely to go to 2-year colleges than are white and Asian students, and they are much *less* likely to actually complete their degrees (Rendon and Garza, 1996; Grubb 1991). Moreover, while a little more than one-third of all college students attend 2-year institutions, more than half of all Hispanic and Native American students are found in these institutions (table 1) (Chronicle of Higher Education, 1998).

Table 1

Percent of students enrolled in 2-year colleges, by race/ethnicity: 1976 and 1996

Race/ethnicity	1976	1996
White	33.9	36.8
Asian	39.9	39.4
Black	41.5	41.5
Hispanic	54.7	56.0
Native American	54.0	51.0
All	35.3	38.7

SOURCE: *Almanac of Higher Education, 1998-99,* Chronicle of Higher Education, 1999.

While one primary mission of the community colleges is to provide low-cost, easy, and local access to postsecondary education for students who might not otherwise be able to attend because of limited resources or inadequate preparation for a 4-year university, these colleges can also divert students off the path to an undergraduate degree (Rendón and Garza, 1996). Burton Clark first identified the "cooling out" function of 2-year institutions, citing the multiple ways in which they can dampen, rather than encourage, aspirations of low-income youth through organizational, cultural, and curricular features that may fail to meet the needs and expectations of students (cf. Clark, 1980). It would be unfair, however, to attribute the problem of incompleted college education solely to the community colleges. These colleges serve multiple functions and, therefore, their success rests on many different kinds of outcomes. Many students who enter community colleges do not have the intention of completing a 4-year degree in the near term, or ever. Many who do articulate such a goal, however, are less well prepared and less focused in their objectives than students who go to 4-year colleges immediately after high school. Thus, there is a clear interaction between the goals and preparation of the students and the effectiveness of the institutions in ensuring the completion of an baccalaureate degree.

Rendón (1994) has also described the critical importance of *validation* for first-generation college students. Validation is the integration of the student into the life of the college through supportive, personal, human connections that send the message "you belong here." Rendón identified the lack of such validation as a critical factor in feelings of alienation that result in students dropping out of both 2-year and 4-year colleges. Because first-generation college-going students are much more likely than others to need this validation, Rendón concluded that its absence is a major contributing factor to their failure to persist. Moreover, exposure in the community colleges to a greater number of peers who lack both personal validation and a clear focus than would be the case in 4-year colleges cannot be discounted as a factor in the derailing of degree aspirations.

A RAND Corporation study (Krop et al., 1998) uncovered why many low-income and underrepresented students who are eligible to attend the prestigious University of California (UC) choose instead to attend state schools and community colleges. Interviewing 113 students from seven California high schools who, for the most part, were eligible to attend the UC but had chosen not to, the RAND researchers concluded that the primary reasons that students gave for their decision were the perception that the university is "not for people like me," concerns about being underprepared for the high demands of the institution, and concerns about cost.

Gladieux and Swail's (1998) findings with regard to who goes to college are entirely consistent with the RAND study. They found that family income level is a powerful predictor of the type of postsecondary institution students select: in 1992, one-fifth of students in the lowest quintile of income enrolled in a 4-year institution, while two-thirds of those students in the highest quintile of family income did so. Thus, concerns about costs and the belief that the university is "not for people like me" appear to be related to socioeconomic class. Similarly, Gladieux and Swail also found that degree completion is highly correlated with both race and class. For example, more than 40 percent of the most advantaged students complete an undergraduate degree within 5 years of beginning college, while only about 6 percent of the least advantaged students do. And, blacks and Hispanics disproportionately compose the least advantaged group.

Another way to analyze the issue of who has access to postsecondary education is to consider students "at risk" as a category. Horn and Carroll (1997) defined at-risk students as being from a single parent home, having an older sibling who is a high school dropout, experiencing excessive residential mobility, having Cs or lower between grades six and eight, repeating a grade in school, and being from a low SES home. All of these risk factors are also highly correlated with ethnic minority status. In comparing at-risk students with those who had no risk factors, Horn and Carroll found that among students with no risk factors, 58 percent enrolled in a 4-year college, compared to 30 percent of students who were at risk.

Why is it Important to Go to College?

From the post-World War II years to the present, the gap in incomes between individuals with and without a college education continues to grow. College graduates in 1975 earned 57 percent more than high school graduates, and in 1997, they earned 77 percent more (College Board, 1999a). Moreover, there is a perfect linear correlation between amount of education and income earned across all education levels (table 2). Clearly, the education of the head of household has implications for the economic well-being of all persons living in the household.

Table 2

Median annual household income, by educational attainment of the head of household: 1998

Education	Income
Less than 9th grade	$15,541
Less than high school diploma	19,851
High school graduate	33,779
Some college	40,015
Associate's degree	45,258
Bachelor's degree	59,048
Master's degree	68,115
Doctor's degree	87,232
Professional degree	92,228

SOURCE: *Trends in College Pricing*, The College Board, 1999.

Access to a college education has clear implications for the country's economic well-being. Beyond the pecuniary benefits of a college education are numerous social benefits to increasing the education levels of underrepresented groups. Persons with higher levels of education are less likely to burden the social service and criminal justice systems (Karoly et al. 1998), they enjoy better health and longer lives (Perna and Swail, 1998), and they contribute substantially more to the public coffers through their taxes (Sorensen, Brewer, and Brighton, 1995). For example, in a RAND study of the economic returns of increasing the education level of Hispanics, Sorensen, Brewer, and Brighton (1995) concluded that "Hispanics with a bachelor's degree will pay more than twice as much in taxes as those with only a high school diploma, and Hispanics with a professional degree will pay an estimated three times as much as those with a bachelor's degree" (pp. 2-3).

Economic equity and concerns about sustaining a vibrant economy are certainly reasonable justifications for pursuing policies to equalize educational opportunity, but some would argue that they are ultimately not the most important reasons for doing so. Jeannie Oakes (2000) maintains that the most important outcome of school reform should be its role in shaping a more just civil society. Similarly, Amatai Etizioni (1995) has long advocated that the value of our social institutions should be judged by their ability to produce a more communitarian society—one that places the establishment of more humane social structures above other considerations. Nel Noddings (1995) has also cautioned that schools that do not place an ethos of caring at the center of their pedagogy fail at their most fundamental task—to prepare youth for happy and productive lives. Bowen and Bok (1998), in their study of the long-term consequences of affirmative action, found that blacks with college degrees (from very selective institutions) were more likely to contribute to their communities through volunteer and leadership activities than were white degree holders from the same institutions. Thus, they made the argument that the opportunity to gain prestigious college degrees served a much higher purpose than simply providing these students with economic advantages. In fact, they contend, the whole society was benefited.

Diversity within educational settings has also been shown to confer cognitive advantages on those students schooled in such settings, especially when it occurs in late adolescence. Thus, not only do underrepresented students obtain benefit from access to higher education, but their nonminority classmates can be expected to benefit cognitively as well. For example, Gurin (1999) examined multi-institutional national data, an extensive survey of students at the University of Michigan, and data drawn from a specific program at the University of Michigan. Based on these analyses, she concluded that

> interaction with peers from diverse racial backgrounds, both in the classroom and informally, is positively associated with a host of "learning outcomes." Students who experienced the most racial and ethnic diversity in classroom settings and in informal interactions with peers showed the greatest engagement in active thinking processes, growth in intellectual engagement and motivation, and growth in intellectual and academic skills (p.100).

Increasing Minority Participation in Postsecondary Education

Recent events may have had an effect on diversification in the nation's colleges over the last several years. In 1994, the U.S. Fourth Circuit Court of Appeals decided in *Podberesky* v *Kirwan* that the University of Maryland's Banneker Scholars Program for black students was unconstitutional because race was the sole determinant of eligibility. In 1995, the regents of the University of California passed SP-1 and SP-2, two provisions that prohibited the use of race, ethnicity, or sex in hiring, contracting, or college admissions decisions within the university. California voters followed suit in 1996 with Proposition 209, which outlawed the consideration of race, ethnicity, or sex for admissions, contracting,

or hiring decisions throughout the state. In 1997, the Fifth Circuit Court of Appeals ruled in favor of Cheryl Hopwood, who had been denied admission to the University of Texas law school. The court's decision was interpreted by the attorney general of Texas as outlawing the use of race or ethnicity as a factor in admission, financial aid, and retention and recruitment programs in all institutions of higher education within the fifth circuit. Most recently, the state of Washington passed Initiative 200 barring the consideration of race or ethnicity in college admissions decisions within that state. Similar efforts are underway in other parts of the country.

University administrators across the country have reflected about the potential consequences of these decisions. Many predicted that these actions would have a devastating impact on the numbers of Hispanics and other minorities admitted to the University of California and to the Texas higher education institutions. In 1998, the year after Proposition 209 took effect, 53 percent fewer Hispanics and 66 percent fewer blacks were admitted to the entering freshman class at UC Berkeley, and 33 percent fewer Hispanics and 43 percent fewer blacks were admitted to UC Los Angeles. For the two flagship campuses of the UC system, this translated into a freshman class composed of about 13 percent underrepresented minorities in a state in which more than 40 percent of the high school graduates in that year were black, Native American, or Hispanic (California Department of Education, 1999). The university system rebounded considerably in 1999, admitting nearly as many underrepresented students as in the year prior to the implementation of Proposition 209; however, because overall almost 5,000 more students were admitted in 1999 (from 41, 935 in 1997 to 46,921), the student participation percentages still fell below 1997 levels. Moreover, in 1997 the university was concerned that only 17.5 percent of its student body comprised underrepresented minorities (at the two flagship campuses, the figure was somewhat higher—19.6 percent), so a return to 1997 admittance levels did not address this problem.

Similarly, the fall 1997 entering freshman class at the University of Texas included 12 percent fewer blacks and 10 percent fewer Hispanics than were in the previous class. And the effect of Hopwood was even more drastic at the law school, where only 52 percent of the previous year's number of Hispanics and 19 percent of the number of blacks were being admitted (Chapa, 1997). With the advent of the 1998 plan to accept the top 10 percent of students from all high schools in the state to the University of Texas system, undergraduate admissions have begun to return to pre-Hopwood levels.

Many blacks, Native Americans, and Hispanics who aspire to higher education in California and Texas apply to state-supported schools because their lower family incomes often lead them to preclude out-of-state or private school options.[1] In 1998, UC Berkeley reported that 800 minority students with 4.0 GPAs and mean SAT scores of 1,170 were turned away because their *relative* ranking, combining GPA and SAT scores, was lower than those of other students (Lee, 1998). UCLA now reports that its 1999 freshman class has an average GPA of 4.24 and a median SAT score of 1,330. This places many of the very brightest students from these underrepresented groups outside the reach of admissions because their schools do not offer the honors and AP courses that confer the extra grade points to enable accruing averages higher than 4.0 (Chávez and Serna, 1999), and their families are unable to pay the several hundred dollars to take an SAT preparation class to help boost their test scores to more competitive levels (Crouse and Trusheim, 1988).

[1] It is important to note, however, that "sticker price" can often be deceptive, and many private colleges and universities are able and willing to provide financial aid to underrepresented students, making the institutions highly competitive with state-supported schools with respect to pricing.

2. OPPORTUNITY TO LEARN

Perhaps the most troubling aspect of the disparity in academic achievement among different groups of students is the multiple ways in which opportunity to learn differs for young people depending on their ethnicity and their socioeconomic status.[2] The nation has been undergoing an examination of its K-12 education system for nearly two decades, experimenting with various reform efforts to increase the achievement of all American students and to reduce the achievement gap. The extent to which these efforts have been successful is a hotly debated issue (Berliner and Biddle, 1996; Stedman, 1995; Elmore, 1996); however, there remains little doubt that gaps in achievement between underrepresented students and all others have remained large or increased (Jencks and Phillips, 1998). For example, while the reading score gap between black and white students on the National Assessment of Educational Progress (NAEP) has narrowed from 1.25 standard deviations to 0.69 over the period between 1971 and 1996 (Jencks and Phillips, 1998), for Hispanics 13 years of age, the gap on the same reading test has widened from 9.9 percentage points to 12.7 between 1975 and 1996 (U.S. Department of Education, 1999).

The persistent gap in achievement indicators between black, Hispanic, and Native American students on the one hand, and white and Asian students on the other, may be the most important single factor in the underrepresentation of the former in higher education. Beyond socioeconomic status and risk characteristics, the kind of education to which students are exposed in the K-12 years may be more effective at predicting their postsecondary choices than any other variable, including socioeconomic status. Adelman (1999), for example, argued that no single factor, including test scores and GPA, better predicts college completion for underrepresented students than the rigor of courses students have taken in high school. The best proxy of rigorous coursework is the highest math course completed. Across all ethnic groups, students who take at least one math course beyond algebra 2 in high school are significantly more likely to complete college (Adelman, 1999). Given the importance of high school curriculum for long-term postsecondary outcomes, how does pre-college curriculum differ between students from low-income and minority backgrounds and all others?

If Adelman is correct that rigor of high school courses is the single most important variable affecting students' eventual college completion, then it is critically important to know what factors in the high school and pre-high school years lead to the probability of a student taking rigorous coursework in secondary school. There are many factors that have a significant impact on K-12 schooling experiences in addition to policies, practices, and resources within the schools themselves. Among these nonschool variables are family background, community resources, peer influence, and social-structural factors. Each variable and its effect on college access and students' preparation for college is described in the Review of the Literature, Appendix A.

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[2] A large body of literature defines "opportunity to learn" by features and conditions in schools. The summary in Appendix A includes most features identified in the literature.

Summarizing the Impediments to Opportunity to Learn

As shown in the body of research presented in Appendix A, there are a number of impediments to higher education for low-income and underrepresented youth. Each of these has been shown to contribute to the relatively low college-going rates of low-income black, Hispanic, and Native American students. A reduction in the salience of each of these impediments would almost certainly increase, to some extent, the college-going rates for these populations; however, it is likely that to make significant inroads on the problem of inequality of access, all of the following impediments should probably be addressed in a comprehensive manner.

1. **Inequalities of familial cultural and social capital.** That is, poor families and those from underrepresented groups are much less likely to have sufficient familiarity with the social and educational systems, and to have access to important information and resource networks, to adequately represent their children's interests.

2. **Inequality of resources in neighborhoods and communities.** Poor communities have fewer local resources, such as libraries, parks, and museums, and fewer adult role models to support the academic aspirations of underrepresented youth.

3. **Lack of peer support for academic achievement.** Black and Hispanic students are more likely than others to have peers who interpret being a good student as "acting white" and therefore ostracizing these high performers from important social supports. Peers who shun academic achievement are common in poor inner-city and rural schools, where students of color feel systematically excluded from white, middle class society.

4. **Racism.** Although most Americans no longer believe black and Hispanic students are innately intellectually inferior, they do attribute these students' school problems largely to their own lack of desire to do better, rather than to structural factors that might impede their advancement. Racism also works to undermine the self-confidence of students of color and can cause them to doubt their abilities and thus remove themselves from academic competition with mainstream students.

5. **Inequalities in K-12 schools, including unequal distribution of well-qualified teachers.** Poor children tend to go to poor schools that are attended largely by other poor children. These schools, largely in the overcrowded urban centers, have been shown to enjoy fewer resources and less-qualified teachers and to have more disciplinary problems and higher turnover of both students and staff. They also offer less rigorous coursework and generally have lower aspirations for their students. Students who attend these schools are more likely to finish school unprepared for postsecondary study than are students from suburban schools, and they are less likely to be competitive for admission to selective colleges because their test scores reflect less rigorous preparation.

6. **Segregation of black and Hispanic students.** Black and Hispanic students are increasingly likely to be educated in segregated schools that provide fewer opportunities for interracial contact and the development of personal and social networks that can increase cultural capital and promote social mobility.

7. **Poor high school counseling.** Underrepresented students are more likely to attend crowded, inner-city public schools where the quality of counseling is poor and students are neither adequately informed of their postsecondary options nor helped to achieve their goals. Inadequate counseling also contributes significantly to the tracking of underrepresented students into non-college-preparatory coursework that limits their postsecondary opportunities.

8. **Low expectations and aspirations.** Underrepresented students are provided less encouragement by teachers who may harbor doubts about their abilities and thereby contribute to a self-fulfilling prophecy of underachievement. These students are also more likely than middle class white and Asian students to have low or unrealistic aspirations for themselves. When aspirations are defined as what a student plans to do, as opposed to what he or she would like to do, researchers find that underrepresented students are less likely than others to plan for higher education. This is critically important because true aspirations are powerful predictors of educational outcomes.

9. **High dropout rates.** Dropping out is a function of both push and pull factors. Underrepresented students, and especially Hispanics, are much more likely to drop out of school than other students, effectively foreclosing postsecondary opportunities for most. However, some portion of the dropout problem can also be attributed to school practices that act to remove "difficult" students from school.

10. **Limited financial resources.** Limited financial resources remains a powerful impediment to postsecondary education for many low-income, underrepresented students. Low-income students with high test scores are significantly less likely to pursue higher education than high-income students with similar test scores. The increasing shift from grants to loans leads to a fear of incurring debt that cannot be repaid or that places an excessive burden on the family (Thomas, 1998; Latino Eligibility Study, 1994). Furthermore, concerns about forgoing income that could relieve family financial stresses during the long years of study can convince some students to reject higher education as an option.

Early Intervention as a Response

Given college participation rates for underrepresented students, and the declining numbers of underrepresented students who are eligible for admission to some of the nation's most selective institutions, many educators and policymakers are placing increased hopes on the potential for early intervention programs to address this situation. For example, the California Legislature appropriated $38.5 million to augment university outreach efforts in the 1998-99 and 1999-2000 state budgets with promises to continue the support into succeeding years if such efforts are successful. Many other states have already launched comprehensive programs to prepare students, especially low-income and minority students, to go on to college, and across the nation there are thousands of programs dedicated to this task (Perna and Swail,1998). In spite of the scale of these activities, data are generally sparse, and for most, it is difficult to know if they work, or for whom, and under what circumstances. Nonetheless, they represent a significant beacon of hope for many young people, It is, therefore, critical to have a better understanding of how these programs work to increase the representation of low-income and minority youth in postsecondary education.

3. STUDY METHODS

This study had several goals: (1) to map the field and thereby show the range of program types that exist and describe their features; (2) to identify programs with evaluation data that would allow an assessment of the effectiveness of particular models and features; and (3) to assess the extent to which existing programs address needs and problems identified in the literature. The first step of the study was to identify what existed across the nation.

There are literally thousands of intervention programs to help underrepresented students get into college (Swail, 1999). Even if it were possible to gather information on all of them, one would quickly find an enormous amount of redundancy in the program descriptions. While individual variation is broad at the level of local implementation, there are a limited number of model types and features that these programs encompass. Thus, it is possible to select prototype programs that represent particular types of efforts. While these prototype programs may differ in details, all programs that meet the prototype criteria share significant commonalities, so it has been possible to set parameters for comparisons. Nonetheless, the process of identifying the range of models and their features, and most especially searching out programs with rigorous evaluation data that allow conclusions about whether they are working and how, has been labor intensive.

Step 1: Programs Survey

Five primary strategies were used to survey the field: a survey of published literature, including compendia of programs; a survey of all State Higher Education Executive Officers (SHEEO) agencies; a survey of all Council of Chief State School Officers (CCSSO) member agencies; a review of studies by foundations and government agencies; and a survey of the authors' personal networks. By using diverse strategies, a broad view of programs across the 50 states, as well as more intensive efforts at local sites, was created.

Survey of Published Literature

Few programs actually have published evaluations or studies. Typically, programs can provide descriptive material in the form of brochures, local press accounts of their activities, or reports to funding agencies that list the numbers of students served, but these materials are seldom found through database searches. Rigorous evaluation studies are rare. Much of the published literature actually focuses on broad reviews of program strategies or analyzes the need for such programs. The exception is the compendia of programs that have been produced, usually under government contract, by various independent researchers. The authors consulted the following such publications:

- *1998 Resource Guide and Directory: for Teachers, Counselors, and Other Educators to Create a Better Tomorrow for Today's Youth.* (1998). The Center for Higher Education Policy Analysis at the University of Southern California.

- *Advancing Minority High Achievement: National Trends and Promising Programs and Practices.* (1998). A report prepared for the National Task Force on Minority High Achievement. The College Board and Johns Hopkins University Center for Social Organization of Schools.

- *Higher Education Outreach Programs: A Synthesis of Evaluations.* (1997). G. Hayward, B. Brandes, M. Kirst, and C. Mazzeo. A report commissioned by the Outreach Task Force of the University of California, Board of Regents.

- *Linking America's Schools and Colleges: Guide to Partnerships and National Directory.* (1995). Franklin P. Wilbur and Leo M. Lambert. American Association for Higher Education.

- *Campus Practices for Student Success: A Compendium of Model Programs.* (1994). American Association of State Colleges and Universities.

- *Sources: Diversity Initiatives in Higher Education. A Directory of Programs, Projects, and Services for African Americans, Hispanic Americans, and Native Americans in Higher Education.* (1993) Office of Minorities in Higher Education, American Council on Education.

- *Reaching for College. Volume 1: Directory of College-School Partnerships.* (1992). Human Services Group, Westat.

State Higher Education Executive Officers and Chief School Officers

Each state postsecondary higher education and K-12 agency provided the names and contacts for college preparation programs in their state. Contacts with the State Higher Education Executive Officers (SHEEOs) were coordinated through the national SHEEO office. Individual email and phone contacts were made with the Council of Chief State School Officers between February and April 1999, seeking information about programs in the states. Information was made available from about half of the states.

- Alaska
- Arkansas
- Colorado
- Connecticut
- Delaware
- Florida
- Hawaii
- Idaho
- Illinois
- Indiana
- Kentucky
- Maine
- Michigan
- Minnesota
- Missouri
- Montana
- New Jersey
- New Mexico
- Oklahoma
- Pennsylvania
- Rhode Island
- South Dakota
- Texas
- Virginia
- Washington
- Wisconsin

Information from Foundations, Government, and Other Agencies and Organizations

The following organization, well known for their involvement with K-12 reform activities, were contacted:

- Carnegie Foundation
- College Board
- ConnectED
- DeWitt Wallace Readers' Digest Foundation
- Ford Foundation
- Lilly Foundation
- Mellon Foundation
- Pew Charitable Trusts
- TERI: The Education Resource Institute
- U.S. Department of Education

Surprisingly, many of the individuals who were contacted could not name programs supported by their own organizations. Other than the project officer, frequently others within the same organization are not fully aware of the activities of the agency. Personal contacts, knowledge of the field, and published compendia of programs were the greatest sources of program information.

Personal Networks

The authors' personal contacts in California, New York, and Massachusetts, and suggestions provided by the NPEC Working Group members yielded a considerable number of program nominations and further contacts.

This process resulted in scores of program descriptions, some comprehensive and others sketchier, which began to fall into category types that allowed the authors to begin mapping the field. It is prudent to remind the reader at this juncture that the majority of programs that exist throughout the country, some at the level of local schools and communities, others more broadly dispersed, were not captured in the search. Many programs are not included because the information gathered was insufficient to understand the working of the program, or they were largely redundant with programs already reviewed.

Step 2: Gathering Evaluation Studies

All materials gathered in the search phase of the study were examined for evidence of an evaluation study that could yield reliable information about the effectiveness a program or its individual features. While many programs include descriptive "evaluation" material citing numbers of students served, numbers going on to college, and the like, or formative studies that attempt to provide feedback to the program implementers about *how* the program works, very few actually conduct rigorous outcome evaluations with comparable comparison or control samples. Thirteen studies with at least some attempt at comparing program results with other reasonably comparable students, or time-series studies in which program effects are plotted over time, and/or that provided insight to a particular issue in educational access, were chosen for the evaluation analyses. Those programs are:

- A Better Chance
- AVID
- College Pathways
- GE College Bound
- I Have a Dream
- Neighborhood Academic Initiative

- Posse
- Project GRAD
- Puente
- Upward Bound
- The initiatives of
  - Florida
  - Indiana
  - Minnesota

These program evaluations, then, form the bulk of the research evidence on the effectiveness of various strategies for increasing college-going among underrepresented youth examined for this report. There are almost certainly excellent program evaluations that are not included.

Step 3: Analysis of Program Information and Data and Forming Conclusions

Programs were categorized by type, and program features were inventoried. Other typologies in the literature (Tierney and Jun, 1998; Swail, 1999; Bailis et al. 1995) helped provide guidance in designing a typology that addresses the strategies that different program types employ, to build or support theory, and to draw relevant conclusions. In the end, two typologies were devised: one of program features, divided into five categories of strategies, that serves to describe the programs in broad terms; and one of programs based on their source of support, their genesis, and the age groups they target.

The descriptive typology illustrates the range of programs in the field; the evaluation typology helps them to make sense of how program features interact with students' movement through the academic pipeline. Program typologies were based, for the most part, on a review of the documents the programs provided, and the analyses depend greatly on how programs are described in these documents. It is recognized that some programs may include features that are not included in their written documents, and that some program directors might interpret program features differently. Given these caveats, however, every attempt was made to describe programs as thoroughly and accurately as possible without conducting actual site visits.

4. A TAXONOMY OF INTERVENTION PROGRAMS TO INCREASE THE COLLEGE-GOING RATES OF UNDERREPRESENTED STUDENTS

There are many ways to organize a discussion of intervention or "pipeline" programs. Some researchers have chosen to categorize them by the point in the K-16 pipeline at which the program intervenes, for example, early intervention programs versus high school bridge programs. Others organize programs by their major feature(s), for example, scholarship programs versus mentoring programs. However, there is considerable overlap among programs with respect to their primary features. The authors have chosen to organize programs by their source of funding or support. Put another way, the programs have been categorized according to their impetus for being. The rationale has been that program missions are shaped differently according to who establishes them. For example, when a community group comes together to sponsor a program, the program is likely to incorporate elements of community and family support and involvement, and it will probably be directed toward the particular kinds of students that concern that community. Thus, it is important to understand these programs as products of different sectors of society and the value systems and beliefs that guide individuals in that sector.

Particular program features may exist in any of these programs, independent of their impetus or the category into which they are grouped. Features may be expressed quite differently depending on the sector from which the program emanates. These differences can be meaningful with respect to identifying resources for students, as well as in the outcomes that might be expected. For example, mentoring in a community-based program is more likely to involve mentors who represent that community than would be the case in a K-12-based program, where school personnel may play a larger role. Likewise, tutoring in a university-based program is more likely to involve college students than local parents, who may fill those functions in a school- or community-based program.

Programs are organized into five major categories: private nonprofit, university-based, government-sponsored, community-based, and K-12. While it is important to organize programs along some dimension to understand how they work, programs, like other living organisms, do not always fit neatly into any taxonomy. Many of the programs examined could, in fact, fit into more than one of the categories. A notable example is summer bridge programs. An entire program may consist of a summer bridge intervention, but it may be sponsored equally by a nonprofit foundation, a K-12 district, and a receiving university. Summerbridge is a private nonprofit program inasmuch as its structure is itself a foundation. Similarly, the Monterey Bay Education Consortium is categorized as a university-based program on the basis that the administration of the program is housed at one of the University of California campuses. While acknowledging a certain arbitrariness, the authors have attempted to group programs according their *primary impetus*, i.e., who started the program? What has been the source of its genesis, and who, structurally, is responsible for its management?

Exhibit 1 categorizes programs by type and by targeted population. Whether programs target individual students, classrooms, or whole schools is an important distinction, since this decision has implications for the program's impact institutions as well as individuals. (See Appendix C for detailed program descriptions.)

Exhibit 1

Prototype intervention programs, by program type and targeted students

Program type	Target population
Private nonprofit:	
A Better Chance	Individual high school students
I Have a Dream (IHAD)	6th –12th graders by class
Prep for Prep	Individual high school students
College Bound (GE)	Secondary schools
Summerbridge	Individual secondary students
Kids to College (K2C)	6th graders by school
College Pathways	Secondary students by class
University-based:	
BioPrep	Individual secondary students (grades 8-12)
College Now	Individual high school students
Monterey Bay Education Consortium (MBEC)	K-12 by school/region
Neighborhood Academic Initiative (NAI)	Individual high school students
MN Postsecondary Enrollment Options Program (PEOP)	Individual secondary students
Project Step	K-12 students
Xavier's Stress on Analytical Reasoning (SOAR)	Individual secondary students
King-Chávez-Parks Initiative	Individual secondary students (grades 6-11)
TexPrep	Individual secondary students
Minorities in Engineering and Sciences (MESA)	Individual secondary students
Early Identification Program (EIP) (Virginia and Wisconsin)	Individual secondary students (grades 8-12)
Government-sponsored:	
State	
OK Higher Learning Access Program (OHLAP)	Individual high school students
College Reach Out Program (CROP) (RL)	Individual secondary students (grades 6-12)
New Jersey College Bound	Individual secondary students (grades 6-12)
Illinois Early Outreach Program (EOP)	Individual secondary students (grades 7-12)
Indiana Career & Postsecondary Advancement Center (ICPAC)	Individual secondary students
Federal:	
Upward Bound	Secondary students by class
GEAR UP	K-12 student by school

Exhibit 1

**Prototype intervention programs,
by program type and targeted students (continued)**

Program type	Target population
Community-based:	
College Kids	Individual 3-5 grade students
The Posse Program	Individual high school students
Puente	High school students by class
K-12:	
Advancement via Individual Determination (AVID)	Individual high school students
Baltimore College Bound	9th & 10th graders by class
Detroit Area Pre-college Engineering Program (DAPCEP)	Individual K-12 students
Project GRAD	K-12 students by school
Urban Partnerships	K-12 students by school

Types of Programs

Private Nonprofit Programs

Private nonprofit programs originate from foundations, agencies, or even corporate entities with a specific mission or goals related to better preparing students for college. These programs tend to grow out of a belief that the focused attention of a benefactor outside the system can provide "lighthouse" demonstrations that may later be picked up and integrated into the educational system. Although the corporations that sponsor such initiatives are quite obviously for-profit organizations, the program activity is typically conducted under the auspices of a nonprofit subsidiary or foundation set up for this purpose, or it is sponsored out of the community relations department of the company. Foundations will frequently fund such programs for a limited demonstration period with the idea that if they are successful, they will attract support from other sources.

Sometimes these programs incorporate themselves and become permanent features in the educational landscape. I Have a Dream (IHAD) is such a program. It began with the good intentions of one person to inspire one classroom of students in New York City. It has expanded to become a nationwide nonprofit program at 140 sites across the country, and its components have grown from the single-minded notion of inspiring students to go to college by providing guaranteed scholarships, to ensuring that the students in the program receive a host of supplemental services. Nonetheless, each program site must attract its own benefactor who provides support for the program. Benefactors of IHAD may be individual communities, agencies, corporations, or foundations. The impetus for the programs, though, revolves around a notion that people outside the public schools can have an impact on students inside these schools, and that their status as unfettered outsiders is of particular value in this effort.

The College Bound program, which was working with 19 high schools in 1999, was initiated by the General Electric company. GE gives grants to schools in communities where the company has plants or offices that agree to double their college-going rate for particular groups of students. GE embarked on this ambitious experiment nearly a decade ago to test out models of intervention that it hoped would prove effective, and then to assist schools in adopting these interventions. GE has given considerable autonomy to its pilot sites to develop program features that work in each unique environment. GE's grants have been awarded in amounts up to $1 million to each school, and it has provided up to 10 years for the reforms to take hold. A recently released evaluation is reviewed later in this document.

Foundations often provide grants to universities, community-based organizations, or schools to help them achieve their goals. The foundations vary greatly in their level of involvement in program development and implementation—from a hands-on approach to simply providing the financial resources to allow others to experiment. The Urban Partnership Program (UPP) sponsored by the U.S. Department of Education's Fund for the Improvement of Postsecondary Education is one such initiative. UPP provides funding to support partnerships between schools, colleges, parents, and other organizations. With the ambitious goal to "broaden postsecondary opportunities" for at-risk students, it disseminates funds to those organizations that can work toward this goal rather than developing its own programming.

Postsecondary Education-Sponsored Programs or K-16 Partnerships

A 1994 survey by the U.S. Department of Education revealed that about one-third of all colleges and universities offer at least one program designed to increase access for educationally and/or economically disadvantaged precollegiate students (Perna and Swail, 1998, citing Chaney, Lewis, and Farris, 1995). Universities become involved in these efforts for multiple reasons. At one level, universities see themselves as consumers of the products of public schools—high school graduates. To the extent that these students arrive at the university underprepared for the rigors of college-level work, the institutions have viewed it to be in their own self-interest to help strengthen the public schools. At another level, the colleges' and universities' involvement results from the taxpayers' perception that the university holds some responsibility for the state of American education. At yet another level, faculty with expertise in learning and education have relished the opportunity to test out their own theories in model interventions.

Programs can focus on partnerships between colleges and schools, usually high schools, in an effort to share resources, strengthen the schools, and establish connections between the various educational communities. The Monterey Bay Education Consortium (MBEC) is such a program. The Santa Cruz campus of the University of California took the lead in organizing the feeder schools to its campus from elementary school through middle school, high school, and community college, and joined with the local campus of the state university to provide integrated informational and support services to students beginning in the early grades. Students are given a Passport to Education in the fourth grade (hand-held and on the web), which they are to have stamped every 2 years as they achieve benchmarks on their pathways toward high academic achievement and college.

Another example of this type of program is Virginia's Early Identification Program (EIP), a collaborative program between George Mason University and the Fairfax County public schools. EIP offers academic programming that takes place on the college campus to selected eighth grade students, thus exposing students to college life and providing intensive academic preparation.

Xavier University runs Stress on Analytical Reasoning (SOAR), an intensive academic summer program for students considering careers in the health professions. Students attend each summer of their high school years, focusing on supplementing the math and science curriculum in their schools, and building their vocabulary and reading skills. By the time these students are ready to enroll at Xavier, they may have had several summers of supplemental instruction to help prepare them for a rigorous pre-med science education. The program helps the historically black Catholic college to realize its own mission of preparing black students for careers in science and medicine, and it helps to provide a cohort of well-prepared students to fill its freshman classes.

Government-Sponsored Programs

The two major sources of government-sponsored programs are the states and the federal government. A number of states have taken on statewide initiatives to stimulate college-going. These large-scale programs often are funded because the state is not preparing enough highly qualified college graduates to fuel its economy, and it may be losing population as a result. Indiana is one such example. Or, demographic trends in the state may threaten to create social problems if higher education is not made more accessible to the increasing portion of the state's population that is low income and nonwhite. Both California and Florida are examples of this situation.

Federal initiatives, on the other hand, tend to stem from an evolving philosophy about the role of the federal government in education. While the provision of education is a state responsibility, the role of the federal government has increasingly become that of equalizing opportunity across the states by providing information to students, assistance to schools in accommodating students with special needs, and financial support for low- (and increasingly for middle-) income students to attend college.

Many government programs focus on providing incentives and increasing access for underrepresented students to attend postsecondary institutions. Florida's College Reach Out Program (CROP) provides funding for enrichment activities, career counseling, and academic programs as a way to provide support to students who might not normally have considered college. Oklahoma's Higher Learning Access Program (OHLAP) offers scholarships and information about financial aid to help students with financial need attend college. The federal government's TRIO programs provide comprehensive services from middle school to college to increase the likelihood that low-income and underrepresented students might gain access to postsecondary opportunities.

Community-Based Programs

These programs originate from members of a community who see a need among their own youth and develop a program to address that need. They often focus on supporting students outside of the school environment. Strategies used by community-based programs are frequently similar to those in school-based programs, but they can also incorporate elements that are specific to a particular community, including cultural experiences that help students to develop healthy self-concepts. These programs typically pull resources from within their own community, such as mentors who represent similar backgrounds as those of the children whom they serve. The Kids to College Program in Massachusetts pairs colleges and clusters of local schools to expose sixth graders to postsecondary education. An important element of the program is making students aware of the opportunities for postsecondary education within their own communities and connecting students to others from their own circumstances who are pursuing higher education. Kids to College offers day trips to colleges and engages students in a special curriculum designed to support academic learning as well as providing activities that help tie students to their own communities.

The Puente program in California, while currently supported by university and state funds, actually had its impetus as a community-based program, and many of its features continue to reflect that orientation. Puente focuses on preparing the large population of underachieving Hispanic students in the state for a college education. It incorporates literature from the students' own community into a rigorous 2-year college preparatory English curriculum, and it provides both mentors and counselors from the Hispanic community who can communicate in Spanish with parents and serve as models of educational accomplishment from within the community.

College Kids, based at three sites in California, is a unique program in that it focuses intensively on students in grades three to five and helps their communities to gain resources to provide mentoring, academic enrichment, and parent education. The program draws heavily on local college students to provide academic enrichment activities twice weekly and incorporates lessons and activities designed to support the children's self-concept and identity as persons of color before they enter the challenging middle school years. Ninety percent of the students are Hispanic, and most of the others are black.

K-12-Sponsored Programs

Many programs are spearheaded by the public school systems throughout the country. Some begin as early as grammar school, while others are initiated by high schools. Superintendents of public schools or individual principals may begin programs. The impetus for the schools is clear. The public is increasingly demanding that students complete their high school diploma programs and be prepared for entry into college. K-12 public schools have been under a spotlight of public attention and heavily criticized for failing at this mission, especially with low-income and nonwhite children, and intervention programs are an important way for schools to demonstrate their commitment to improving outcomes for students. Slavin and Fashola (1998) have reviewed some of these programs that they find particularly successful in raising student achievement.

For this review, K-12 programs that do not have a specific focus on assisting in postsecondary educational enrollment are not examined. Programs that serve to increase student achievement can have a powerful effect on the chances that students will enroll in postsecondary schools. However, including any portion of the programs nationwide that simply purport to raise student achievement would have rendered this study far too unwieldy and unfocused to have served the question at hand: What are the most effective strategies currently being employed to increase the college-going rate of underrepresented students? Early and consistent focus on academic achievement is essential to achieving any significant increases in the educational attainment levels.

Advancement via Individual Determination (AVID) was a response by one high school English teacher in a San Diego school to her frustration with the academic tracking system. Mary Catherine Swanson decided that a group of mostly low-income minority students who showed academic promise, but who were underperforming in school, should be placed into college preparatory English and provided the support to help them succeed. From this bold experiment grew a program whose focus has been on "untracking" students and providing them with the academic support and encouragement to go on to college. AVID is now in scores of California schools as well as in several other states.

In Houston, Project GRAD takes a highly systemic approach to its intervention strategy. Project GRAD is designed to capitalize on the extensive research that exists on increasing student learning. It incorporates six well-researched programs into a K-12 strategy that includes components to strengthen students' learning along the pipeline leading to high school graduation. More than an

informational, counseling, or incentive approach, Project GRAD is based on a philosophy that only reform of the entire education system will allow significant numbers of underrepresented students to become academically competitive for college.

Program Components

Within each of the five program types there are multiple program components. The most common program components are counseling, academic enrichment, parental involvement, personal enrichment and social integration, mentoring, and scholarships. Each of these components can occur alone or in combination with others in a program type. All 33 programs reviewed employ at least one of six overall program components. Counseling and academic enrichment define the majority of the programs, with 28 programs providing some form of counseling and 26 providing an academic enrichment component. Parental involvement components in some form are found in 18 programs. Personal integration and social enrichment components are also part of 18 programs. Thirteen of the programs incorporate a mentoring element, and 10 offer some type of college scholarship.

Counseling

It is not surprising that so many programs would incorporate a counseling component. The lack of adequate counseling has been identified as a major obstacle to college-going for underrepresented students (Oakes, 1995; Romo and Falbo, 1996; McDonough, 1997). However, underrepresented students' reluctance to use counselors because they are perceived to be ill informed about minority student issues or because they have a reputation for counseling these students into low-level classes is also well documented (Atkinson, Jennings, and Livingston, 1990). At least two challenges for intervention programs that incorporate counseling features are providing enough qualified counseling help to meet students' needs and building trust with this population of students and families.

The majority of the pipeline programs discussed in this report invest time and effort in counseling their student participants. The goal behind the counseling efforts is the same for most initiatives: to provide students with access to information so that they may attend college. Programs employ a number of strategies in order to disseminate college information and advising. Some offer individual consultations with students to help them to better understand the college search and application process. Others employ peer, staff, or college representatives who speak with groups of students about college opportunities and campus life in a workshop or classroom setting. Several programs offer assistance with financial aid forms and college applications. For many students, these forms, which sometimes seem overwhelming, can become a significant barrier to attending college (Latino Eligibility Study, 1994). In some cases, programs with specific interests—such as the Illinois Early Outreach Program—counsel their student participants to enter specific fields, such as science and engineering. Wisconsin's Early Identification Program focuses heavily on counseling and advising in order to help students achieve their career, employment, and college goals.

Nine of the programs that offer counseling address career planning. These programs, often with specific interests, encourage students to explore their career options. As a part of the career counseling process, some counselors develop internship programs or partnerships with corporate sponsors who provide speakers or volunteers from the business sector to work directly with students. Counseling is different from mentoring, however, in that it offers guidance to students in an informational or educational way. The focus is usually on the college selection and application process or career counseling. Exhibit 2 displays the types of counseling services provided by the programs.

Exhibit 2

Counseling services provided, by program

Program	College and/or financial advising	Career advising	Assistance w/ form and college application	Personal
A Better Chance	x		x	x
AVID	x		x	
Baltimore College Bound	x		x	
BioPrep		x	x	
College Bound	x			x
College Kids				
College Now				
CROP	x	x		x
DAPCEP		x		
GEAR UP	x	x	x	x
I Have a Dream	x			x
ICPAC	x			
IL EOP	x	x	x	
Kids to College	x			
King-Chávez-Parks	x			
MBEC	x			
NAI	x		x	x
NJ College Bound	x	x		
OHLAP			x	
Postsecondary EOP				
Prep for Prep	x			x
Project GRAD	x			
Project Step				
Puente	x		x	x
SOAR		x		
Step to College/Mission	x			
Summerbridge				
TexPrep		x		
The Posse Program	x		x	x
Upward Bound	x		x	x
Urban Partnership Program	x		x	
Virginia EIP	x		x	
Wisconsin EIP	x	x	x	x

Academic Enrichment

While most of the programs provide college counseling, just as many employ an academic enrichment component of some kind. Academic enrichment addresses the problem of underpreparation for college and attempts to strengthen students' college eligibility. When underrepresented students are being required to compete with more advantaged students for the limited slots in selective institutions, academic enrichment helps them to compete more effectively, both in admissions and in the classroom.

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To strengthen students' academic preparation, some programs provide tutoring (e.g., AVID) or extensive supplemental courses to augment the schools' curriculum (e.g., Upward Bound), or they focus on changing the curriculum and method of delivery (e.g., Project GRAD). All of these strategies have a strong basis in the literature. Tutoring has been shown to be an effective means of strengthening students' core academic skills (Slavin and Karweit, 1985), and additional time on task when instruction is targeted to particular needs and provided by a skilled teacher also increases achievement (Walberg, 1993; Carroll, 1963). Some programs also provide students with an opportunity to get a head start on their college requirements, or to experience college life prior to matriculation. To better prepare students for the demands of college-level courses, programs offer specific classes, seminars, or workshops to help students improve their reading, writing, and analytic skills.

Many of these programs make the academic component their core component. Xavier University's SOAR program, for example, is heavily focused on improving the academic skills of its participants. The summer program, which involves daily quizzes, daily homework, an emphasis on reading and writing, and weekly report cards sent home to parents, hopes to better prepare students for the realities of college demands. The long-term goal for SOAR—and for many other programs with academic components—is, in addition to making students eligible for college, to increase their retention and graduation rates by improving their academic skills. Initiatives like SOAR, TexPrep, and Summerbridge offer their core academic programs during the summer, but programs vary. Some engage students in classes taught by university faculty on the college campus in order to expose participants to a college environment (e.g., SOAR) or to college or high school students who may be trained by the program (e.g., College Kids). Some are peer-taught (like Summerbridge). BioPrep has developed its own accelerated curriculum and encourages students to pursue careers in the health and science professions.

In addition to these academic enrichment efforts, many programs offer tutoring to their participants. Tutors can be college students (e.g., AVID), members of the community (e.g, MBEC), or school personnel (e.g., Upward Bound). Others, such as College Bound or Virginia's EIP, offer SAT or ACT preparation courses or coaching. A few utilize assessment tools to evaluate student levels of preparation and ability. College Now, at City University in New York, identifies high school students who are "moderate achievers" and places them in either remedial or college-level courses.

Some programs, like the Neighborhood Academic Initiative (NAI), offer before- or after-school and/or Saturday programs, while some form partnerships with local colleges and universities so that students can take college level courses—sometimes for credit. Minnesota's Postsecondary Enrollment Options Program (EOP) offers accredited college-level classes to high school juniors and seniors enrolled in public schools. The state strategy is focused on challenging students to spur them on to more "rigorous academic pursuits." Exhibit 3 displays academic enrichment activities by program.

Exhibit 3

Academic enrichment services provided, by program

Program	Summer program	Tutoring	College-based or college-level courses/programs	High school or after-school academic preparation program	Assessment	SAT/test preparation
A Better Chance				X		
AVID		x		X		x
Baltimore College Bound						
BioPrep	x			X		
College Bound		x		X		x
College Kids		x		x		
College Now (+remedial)			x		x	
CROP		x		x		
DAPCEP	x			x		
GEAR UP	x	x	x	x	x	
I Have a Dream		x		x		
ICPAC					x	
IL EOP	x	x				
Kids to College						
King-Chávez-Parks						
MBEC						
NAI				x		x
NJ College Bound	x		x			
OHLAP						
Postsecondary EOP			x			
Prep for Prep				x		
Project GRAD		x			x	
Project Step		x		x		
Puente		x			x	
SOAR	x	x		x	x	x
Step to College						
Summerbridge	x	x		x		
TexPrep	x					
The Posse Program		x				
Upward Bound	x	x			x	x
Urban Partnership Program						
Virginia EIP	x	x	x	x		x
Wisconsin EIP		x		x		x

Parent Involvement

While the education literature touts the advantages of parent involvement for students' academic achievement, this research has sometimes been misconstrued to suggest that involvement in students' *schools* is a causal factor in their increased performance. Some have been quick to equate

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attendance at PTA meetings or as school volunteers as the measure of parents' interest or influence on their children's schooling. In fact, it is the parents' involvement in their children's *education*—wherever that occurs—that is the more critical factor in achievement (Moles, 1982), and it is difficult to measure this level of involvement, especially for language minority parents and others who have not themselves had extensive experience with the American schooling system. Many of these parents feel uncomfortable in the schools and will not come to parent meetings. This does not necessarily mean that they are uninterested in their children's education or their schooling, but it does make it more difficult to communicate important information. A major challenge for some intervention programs is to find ways to communicate with parents about the goals of the program and the ways that parents can help support those goals.

Some programs require that parents sign a contract to support their child's participation in the program and attend parent information meetings (e.g., Puente). At a minimum, programs that have a parent involvement component provide informational sessions on college requirements, financial aid, and other related topics (e.g., King-Chávez-Parks, SOAR, and Upward Bound). A number of programs also offer training programs on helping students to excel in school. These training sessions may cover monitoring homework, maintaining communication and discipline with adolescents, issues in adolescent development, and other related topics. To attract parents, some programs conduct the sessions in their primary language and add other cultural elements to the activities (e.g., Puente, College Kids).

More than half of the programs reviewed include a component that involves parents in some way. Most of them offer an orientation so that parents better understand the programs in which their children are involved. Some engage parents as volunteers. Some develop initiatives specifically designed for parents. NAI, for example, includes parents in Saturday morning counseling sessions so that parents can better understand the academic options for their children both in high school and college. Programs that require a heavy commitment of time from parents may also use this strategy to screen out students whose parents do not support their children's academic endeavors, since that may be an important predictor of long-term success in a program (PEPC, 1998). Several programs involve parents as program designers, developers, or even staff. California's Project Step encourages networking among parents, college faculty, and principals. The Detroit Area Pre-College Engineering Program (DAPCEP) uses a parent advisory committee that offers seminars and opportunities for other parents and their children. Exhibit 4 demonstrates the kinds of parent involvement activities that are employed.

Exhibit 4

Parent involvement activities, by program

Program	Orientation to program for parents	Parents as volunteers	Programs for parents	Parents as program designers, developers, staff
A Better Chance				x
AVID				
Baltimore College Bound			x	
BioPrep				
College Bound				
College Kids	x	x	x	x
College Now				
CROP			x	
DAPCEP				
GEAR UP			x	
I Have a Dream				
ICPAC			x	
IL EOP			x	
Kids to College				
King-Chávez-Parks	x			
MBEC			x	
NAI			x	
NJ College Bound			x	
OHLAP	x			
Postsecondary EOP			x	
Prep for Prep				
Project GRAD			x	
Project Step				x
Puente	x	x	x	
SOAR	x			
Step to College/Mission				
Summerbridge				
TexPrep				
The Posse Program	x			
Upward Bound	x		x	
Urban Partnership Program				
Virginia EIP				
Wisconsin EIP				x

Personal Enrichment and Social Integration

Eighteen of the pipeline initiatives reviewed here describe themselves as offering some kind of personal enrichment or social integration strategy, including leadership development, goals setting, confidence building, cross-cultural workshops, community service, connection to the arts, or field trips. Some programs bring in speakers from colleges and universities or from the workforce to help students

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broaden their understanding of the opportunities available to them. The goal behind these personal enrichment activities is to help students build self-esteem, develop confidence, and feel empowered to achieve and succeed in their academic careers, and ultimately to confer cultural capital, or a knowledge of how to make the system work. Activities geared toward social integration help students to find a supportive niche in their environment and provide opportunities to build relationships with others. California's Step to College Program works toward creating a "culture of college-going" among underrepresented junior and high school students. Activities include cultural awareness and social support from peers. Some students who finish the program return to become tutors and counselors to the younger students. Exhibit 5 displays the range of personal enrichment and social integration activities.

Exhibit 5

Personal enrichment and social integration (PESI) strategies, by program

Program	Leadership	Arts and cultural activities	Field trips	Speakers	Peer component
A Better Chance					
AVID			x	x	x
Baltimore College Bound					
BioPrep					
College Bound			x		
College Kids	x	x	x		
College Now					
CROP					
DAPCEP			x	x	
GEAR UP	x	x	x	x	
I Have a Dream		x			
ICPAC					
IL EOP				x	
Kids to College			x		
King-Chávez-Parks			x		
MBEC					
NAI					
NJ College Bound					
OHLAP					
Postsecondary EOP					
Prep for Prep	x		x		

Exhibit 5

Personal enrichment and social integration (PESI) strategies, by program (continued)

Program	Leadership	Arts and cultural activities	Field trips	Speakers	Peer component
Project GRAD			x		
Project Step					
Puente	x	x	x	x	x
SOAR	x		x	x	x
Step to College/Mission		x			x
Summerbridge					x
TexPrep			x	x	
The Posse Program	x	x			x
Upward Bound					
Urban Partnership Program			x	x	
Virginia EIP					
Wisconsin EIP					

Mentoring

Although only 13 of the 33 programs highlight formal mentoring as one of their main program components, mentoring is viewed by many as a critical element in increasing student success rates. However, there is actually very little evidence in the literature to support the notion that mentoring improves academic performance. Only a couple of studies have shown even modest increases in grades (Grossman and Tierney, 1998), which could represent a Hawthorne effect—students who are selected for any kind of program may show some effects from simply being treated specially—or other methodological problems. Other studies have shown mentoring effects on behavioral indicators such as reduction in student truancy and drug and alcohol use (Rogers and Taylor, 1997; Grossman and Garry, 1997). One difficulty with this research is the problem of measuring the nature of mentoring relationships across large groups of students and finding appropriate comparison groups of students against which to test the effectiveness of the program (Mejorado, 1999).

Programs like The Posse Program train and send students in teams to college so that they can support one another through the year prior to college and all through college. In addition to the team component at Posse, a graduate student is assigned to each team to formally mentor each student both academically and socially. The I Have a Dream program engages mentor-sponsors from the corporate community. Each mentor-sponsor adopts a sixth grade class and provides encouragement, cultural enrichment opportunities, and financial support to each student. Mentoring activities that are incorporated in the programs are shown in exhibit 6.

Exhibit 6

Mentoring provided by various participants, by program

Program	Peer-based	University and/or high school staff and/or faculty	Volunteers	Corporate/ professionals
A Better Chance				
AVID				
Baltimore College Bound				
BioPrep				
College Bound		x	x	x
College Kids			x	
College Now				
CROP		x		
DAPCEP				x
GEAR UP		x		
I Have a Dream		x		x
ICPAC				
IL EOP				
Kids to College				
King-Chávez-Parks				
MBEC				
NAI		x		
NJ College Bound		x		
OHLAP				
Postsecondary EOP				
Prep for Prep				
Project GRAD				
Project Step				
Puente	x		x	
SOAR	x			
Step to College/Mission				
Summerbridge	x			
TexPrep				
The Posse Program	x	x		
Urban Partnership Program				
Upward Bound		x	x	
Virginia EIP				
Wisconsin EIP				

Scholarships

Ten of the programs include some financial assistance in the form of scholarships. The scholarships may be solely for the purpose of defraying costs associated with attending college, such as Indiana's 21st Century Scholars Program (an addition to the ICPAC portfolio of programs instituted in 1990), or they may be used as encouragement or incentives to attend college, and therefore cover college costs. Scholarships can also be awarded at different levels, depending on the student's level of achievement, or they may be awarded on the basis of college admission. Scholarships offered can take

the form of last dollar scholarships (the difference between all other scholarships and aid and the student's need), field-focused or career-specific initiatives (such as engineering scholarships), diversity initiatives, or merit awards. Often a scholarship component is included or made the core component of a program with the intention of inducing students to work toward and apply to specific colleges or academic foci.

The size of the scholarship and the commitment of the funding agencies are a function of the size of the program as well. Large-scale initiatives such as statewide programs are unlikely to provide full-ride scholarships to independent or private schools, though they may provide full tuition scholarships for public institutions to a targeted group of students. Smaller programs, on the other hand, may provide full scholarships to either a specific independent college, such as the NAI provides for the University of Southern California and Posse provides for Vanderbilt University, or for an institution of choice, such as A Better Chance does. Funding for these types of programs can come from university commitments, private sponsors, or government initiatives. Indiana's statewide program to increase college-going among its students places scholarships at the center of its activities, along with information gathering and dissemination. On the basis of an extensive study sponsored by the Lilly Foundation, Indiana elected to invest heavily in scholarships that it awards for different levels of performance. The 21st Century Scholars program, for example, guarantees that any student who meets the eligibility requirements for one of the state's 4-year institutions will be provided sufficient scholarship money to attend. In the last 10 years, Indiana has doubled its commitment to student scholarship support. Baltimore, Maryland's College Bound Program helps students apply for financial aid and then offers "last dollar" support to ensure that they will be able to attend. Exhibit 7 provides information on scholarships.

Exhibit 7

Scholarships available from various sources, by program

Program	University	Private/corporate	Federal/state
A Better Chance		x	
AVID			
Baltimore College Bound			x
BioPrep			
College Bound			
College Kids			
College Now			
CROP			
DAPCEP		x	
GEAR UP			x
I Have a Dream		x	
ICPAC/21st Century Scholars		x	x
IL EOP			
Kids to College			
King-Chávez-Parks			
MBEC			
NAI	x		
NJ College Bound			x
OHLAP			x
Postsecondary EOP			x

Exhibit 7

Scholarships available from various sources, by program (continued)

Program	University	Private/corporate	Federal/state
Prep for Prep			
Project GRAD		x	
Project Step			
Puente			
SOAR			
Step to College/Mission			
Summerbridge			
TexPrep			
The Posse Program	x		
Upward Bound			
Urban Partnership Program			
VA EIP			
WI EIP			

Summary of Program Features

Based on the review of the literature, there were 10 major impediments to educational mobility for underrepresented students. The programs reviewed attempt to ameliorate them through their various programmatic strategies. Each program takes a somewhat different focus both with respect to the barriers it attempts to reduce and to the point in the educational pipeline that it targets (e.g., elementary, middle, or high school). Exhibit 8 summarizes the program features incorporated by program and population target.

Exhibit 8

Summary of features, by program

Program	Counseling	Academic enrichment	Parental involvement	Personal and social enrichment	Mentoring	Scholarships	Target audience
A Better Chance	X	x	x				Ind. H.S. students
AVID	X	x		x			Ind. H.S. students
Baltimore College Bound	X		x			x	H.S. students by class (9th & 10th)
BioPrep	X	x					Ind. secondary (8-12)
College Bound	X	x		x	x		Secondary schools
College Kids		x	x	x	x		Ind. K-12
College Now		x					Ind. H.S. students
CROP	x	x	x		x		Ind. secondary (6-12)
DAPCEP	x	x		x	x	x	Ind. K-12
GEAR UP	x	x	x	x	x	x	K-12 students by school

Ind. = individual

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Exhibit 8

Summary of features, by program (continued)

Program	Counsel -ing	Academic enrichment	Parental involvement	Personal and social enrichment	Mentor-ing	Scholar -ships	Target audience
I Have a Dream	x	x		x	x	x	6-12 students by class
ICPAC	x	x	x			x	Ind. secondary students
IL EOP	x	x	x	x			Ind. secondary (7-12)
Kids to College	x			x			6th graders by school
King-Chávez-Parks	x		x	x			Ind. secondary (6-12)
MBEC	x		x				K-12 studs by school
NAI	x	x	x		x		Ind. H.S. students
NJ College Bound	x	x			x	x	Ind. secondary (6-12)
OHLAP	x		x			x	Ind. H.S. students
Postsecondary EOP		x	x			x	Ind. secondary students
Prep for Prep	x	x		x			Ind. H.S. students
Project GRAD	x	x	x	x		x	K-12 students by school
Project Step		x	x				
Puente	x	x	x	x	x		H.S. students by class
SOAR	x	x	x	x	x		Ind. secondary students
Step to College/Mission	x			x			
Summerbridge		x		x	x		Ind. Secondary students
TexPrep	x	x		x			Ind. secondary students
The Posse Program	x	x	x	x	x	x	Ind. H.S. students
Upward Bound	x	x	x		x		Secondary students by class
Urban Partnership Program	x			x			K-12 students by school
Virginia EIP	x	x					Ind. secondary (8-12)
Wisconsin EIP	x	x	x				Ind. secondary students

Ind. = individual.

While few programs are actually explicit about the relationship between what they do, the kinds of problems they are attempting to ameliorate, or how the program elements relate to impediments identified in the literature, it is possible, nonetheless, to create these *logical links* by matching known impediments with the strategies that the programs incorporate.

Logical Links Between Impediments to Access and Program Strategies

Inequalities in familial cultural and social capital. These inequalities are addressed by parent involvement programs that provide parents with critical information about educational opportunities and teach skills to help parents monitor their children's educational progress. Eighteen programs offered this kind of support for parents. Notable examples of informational programs are Indiana's ICPAC program and Florida's CROP program. Both have invested substantial resources in developing extensive data and information delivery systems so that parents of first-generation college

students can easily access the information they need, including students' records and college requirements, to help support their children's pathway to college. Mentoring is also a strategy that supports the goals of increasing cultural and social capital to students, and sometimes to parents. A primary role of the mentor is to share knowledge and experience gained from having successfully navigated at least some portion of the educational system.

Inequality of neighborhood resources. Most programs do not address this problem, but programs that are rooted in the community and provide some programming related to community experiences, such as College Kids, do attempt to strengthen neighborhood support of youth. Programs that draw their mentors from the neighboring community, such as Puente, also tap community resources and build a cadre of role models accessible to students within their neighborhoods or local communities. Finally, programs such as A Better Chance and Prep for Prep take the opposite approach—they transfer students into educational settings where high levels of community resources already exist.

Lack of peer support. Programs like AVID and Posse work directly to develop and nurture peer groups from the same backgrounds and communities who mutually support high academic goals. Through joint activities, field trips, and course-taking, students in AVID come to build supportive friendships; Posse builds strong peer groups through joint activities and workshops during high school, then sends the group together to college, where they support each other during the critical first year away from home. These kinds of activities generally fall under the rubric of social integration. Many programs provide some kind of integrating function for students, but most do not attend specifically to their peer groups and the issues that students face when they choose to excel in a peer culture that is not supportive of academic accomplishment.

Racism. Few programs attempt to deal directly with the problem of racism, perhaps in part because most reviewed programs catered to a broad mix of students, including low-income and first-generation college-going white students for whom racism is not a major issue. However, programs like College Kids, SOAR, or Puente, which either consciously recruit from particular communities or draw students of color almost exclusively, implicitly deal with racism in some of the activities they provide to strengthen students' self-concepts and increase their pride in their communities of origin. For example, Puente's integration of Hispanic literature into the core college-preparatory English class is an attempt to counter stereotypes that Hispanics do not excel academically.

Inequalities in K-12 schools. Most programs offer some kind of academic enrichment designed to make up for the inequalities in the schools. Upward Bound, Neighborhood Academic Initiative, and the Detroit Area Pre-college Engineering program, for example, all provide extensive academic coursework to augment the public school curriculum. Only Project GRAD, however, specifically targets the educational *system* across segments to help strengthen all students' academic experience. Project GRAD fundamentally alters the existing curriculum in the schools, though its curricular focus does not extend into the high schools where tracking continues to be a problem.

Segregation. Most programs do not address the problem of segregation by class or ethnicity. However, some programs segregate students for some portion of the day or in some activities in order to build a group of ethnically similar peers to support each other. This is sometimes referred to as creating "safe places" for students to retreat when the pressures of stereotype can become stressful and place students at risk (Steele, 1997). On the other hand, Prep for Prep, A Better Chance, Posse, and NAI incorporate low-income and underrepresented students into schools that serve largely privileged, white students. In this way, they provide a desegregated schooling experience for some students.

Ineffective counseling. Most (26) of the programs reviewed offer extensive counseling. While educational preparation has been shown to be a powerful predictor of postsecondary choices, there

is also abundant evidence that counseling that tracks students into low-level courses is responsible, in part, for under preparation. Hence, to address this problem, counseling for underrepresented students must be improved. The Monterey Bay Education Consortium has introduced a unique approach to comprehensive college counseling. Through its Passport to Education program, MBEC begins the college counseling process at grade four and continues meeting with students at intervals to document their progress on the pathway to college. Each time a benchmark is achieved, the student receives a stamp in his or her passport. In this way, students are kept constantly aware of the requirements for college, and are aware that others expect them to go to college.

Low expectations and aspirations. The personal enrichment and social integration feature that 18 of the programs includes often incorporates activities designed to strengthen students' self-concepts and to raise their aspirations. Programs such as Upward Bound and AVID regularly offer motivational speakers, often from the students' communities, who act as role models and provide encouragement to students that they, too, can make it to college and beyond.

Financial aid. Having limited financial resources is a major barrier to attending 4-year colleges for low-income students, yet most intervention programs do not directly provide financial support. Many offer information about scholarships that are available and encourage students to seek these scholarships. However, provision of financial support is not a core aspect of most of these programs. Indiana and Florida, however, have made large-scale commitments to provide adequate support for all their qualified low-income students. I Have a Dream is a private nonprofit program with the objective of ensuring that all children in the program who qualify for college will receive scholarships sufficient to cover their costs. Since its inception, IHAD has expanded its activities to include an array of strategies to help increase the probability that students will succeed in school and become eligible for the scholarships.

5. PROMISING PRACTICES

In the review of the literature on opportunities to learn (Appendix A and in section 2) 10 major impediments to access were summarized. In Section 4, a taxonomy of programs was developed, and the program features and strategies were reviewed. The *logical* links between impediments and program strategies were discussed; however, most programs do not provide evidence of *empirical* links between program features and student outcomes. Most *do* report increases in student achievement or access as a result of the program, but because these findings are rarely tied to outcomes for comparable control groups, it is very difficult to know if the outcomes are the result of the program intervention, the selection of students into the program, or something else. Bailis et al. (1995) observe that,

> Several barriers have been particularly powerful in preventing the development of definitive estimates of program impact. . . studies typically lack comparison groups of similar students who did not receive program benefits, and this makes it impossible to be sure how much the outcomes can be attributed to the programs. . . .Coupled with this is the paucity of data collected by most college access programs. Without information about students prior to participation in the program, it is again difficult to ascertain whether the programs actually made a difference (p.6).

Thirteen programs that have undertaken evaluations of varying rigor and whose findings illuminate important issues in college access have been identified. Most are not designed to test *which features* of the program are most effective, but some inferences can be drawn. The 13 programs and the students they target for intervention are shown in exhibit 9.

Exhibit 9

Promising programs and their target populations

Program	Target
Posse	Individual high school students
NAI	Individual high school students
A Better Chance	Individual high school students
Upward Bound	Individual high school students
AVID	High School --Classrooms
Puente	High School --Classrooms
College Pathways	High School --Classrooms
GE College Bound*	Entire high schools
I Have a Dream	K- 12 classroom or community
Project GRAD	K-12 feeder schools
Florida (CPOP)	High schools statewide
Indiana (ICPAC)	High schools statewide
Minnesota (PEOP)	High schools statewide

*Some College Bound programs reach into the middle school, and some target only one group within a school; however, most programs target whole high school student bodies through school reform.

Most programs are anchored in the high schools and serve either individual students or classroom groupings of students. Although most of the programs are tied in some kind of partnership with at least one university, it is uncommon for programs to continue services or monitoring of students after high school graduation. While A Better Chance and NAI do provide some monitoring at the college level, Posse is unique among the programs in its almost equal provision of services both before and after college matriculation. The focus among these programs on individual students or individual classrooms of students also means that the impact of the program will remain relatively isolated from the rest of the school. Program effects *may* carry over to other aspects of school or personal life for the students in the program, but they are unlikely to have a major impact on students in the same school who are not in the program. The next section is a summary of the overall findings of our review of these evaluations, followed by a discussion of each of the programs and findings.

Summary of Evaluation Findings

While not all of the programs provided a rigorous evaluation, some did, and the convergence of conclusions around certain issues follows.

Key Features of Successful Programs

1. Across programs, the single most important feature of those that purported to be successful with *individual students* was a close, caring relationship with a knowledgeable adult who monitors the student's progress. Many programs have been quick to adopt mentors for this purpose, but the research is not yet clear on the overall effectiveness of this approach. I Have a Dream employs many adults in the program as sponsors, mentors, and staff persons; however, the evaluation suggests that for most students, it was the years-long relationship with the program director that was key to success. Sponsors and mentors were not always as consistent in their lives. For Puente students, the counselor who stayed with them for 4 years of high school was reported to be a very influential person in their lives and in helping them to make the decision to go to college.

2. Effective program provided high-quality instruction either through access to the most challenging courses offered by the school ("untracking"), through special coursework that supports and augments the regular curricular offerings (tutoring and specially designed classes), or by revamping the curriculum to better address the learning needs of the students.

3. These programs made long-term investments in students rather than short-term interventions. The longer students were in a program, the more they were reported to benefit from it.

4. Most of the effective programs paid attention to the students' cultural background and attempted to incorporate this both in the structure and the content of the program. If Rendón (1994) is correct about the need for validation that many of these students have, then the cultural component may be a core feature of success.

5. A number of programs attributed some of their effectiveness to the formation of supportive peer groups, yet there is little extensive study of this phenomenon and little evidence of effective strategies to create and sustain these groups being replicated across programs. This area is probably worthy of much more study and attention.

6. Scholarship assistance has been shown to be very important in helping students to go to college, but most programs do not provide significant scholarship support. Given the documented

evidence that income has independent effects on college-going, both whether a student goes, and to what kind of institution, it is troubling that more emphasis is not placed on this need.

Impediments to Greater Success for Programs

1. Attrition from programs is a major—often unattended—problem. Many programs provide no or very sketchy data on their attrition over time, and those that do commonly show only about one-third to one-half of the original participants completing the program. Of course, the longer the intervention, the more the risk of attrition exists. But many programs reported evidence that the longer the students were in the program, the greater the impact on outcomes. Thus, it would appear that in order to maximize the effects of these programs, it is critical to stem attrition.

A major factor in attrition is the ease with which students may enter and exit purely voluntary programs. Strategies used by some programs were shown to be very effective in holding students. Puente's strategy of enrolling students into a class that met graduation requirements and was part of their regular high school program of study seemed to be an effective method.

2. It is uncommon to find programs reporting actual academic gains in the form of increased GPA or even test scores *for individual students*. Most programs appear to begin too late (in high school), do not last long enough, and are not intensive and extensive enough to have a real impact on measured academic achievement. The best that most of the programs appear to do is to level the playing field for these underrepresented students *as a group*, but little evidence exists that the programs they reviewed were actually creating high performing students. Some programs did, however, help students to exploit their potential much more effectively, sending much higher percentages of students on to college. However, without a more systemic approach, it does not appear that these programs can have a truly large effect on measured achievement.

3. Most programs focus on affecting outcomes for individual students. That is, the intervention is based on selected individuals, even though the evaluation studies often are not. Nonetheless, such an approach, while potentially very effective for individual students, leaves the schools and the environments that surround underachievement untouched. Project GRAD was alone in its emphasis on changing the structures of the education system in order to have an impact on the fortunes of individual students. It is too early to know yet how successful Project GRAD will be, but early returns on the experiment are positive.

4. None of the programs reviewed was truly systemic in the sense that it linked program components across the K-12 and postsecondary education. Project GRAD covers the longest period of education—from kindergarten into high school. However, it assumes that students will be sufficiently equipped at the high school level to succeed without additional intensive intervention. While that may prove to be true, the research suggests caution in this regard. Moreover, of all the programs that purported to be aiming at getting more students successfully into and through college, only Posse actually had an intensive program component at the college level. Most programs based their success on whether students matriculated into college. Beyond that, students' fates are unknown. Posse helps us to understand why students falter in college: the students can feel isolated and alone in what for many may be perceived as an alien environment, with few other students like themselves to provide support.

Issues in Evaluation

1. Very few evaluations were longitudinal in nature. Therefore, it was necessary to make a number of untested assumptions about the effectiveness of the program and the sources of its impact. Moreover, few evaluations actually used comparisons or controls to test their outcomes that would meet even minimum standards of rigor. Thus, a number of conclusions from the studies must remain tentative.

2. There was wide variation in cost of programs, and many programs report that they do not really know how much they cost. Even more surprising, however, was the absence of any form of cost-benefit analysis of the program components. How does one explain no difference, or only minor differences, in outcomes for programs that cost $500 per student and those that cost $4,000 per student? More careful, and longer term, evaluation might well yield outcomes that have not been measured or even considered.

3. While there is considerable evidence that scholarships are an important and effective strategy, few scholarship programs report data on student persistence. Thus, the long-term effects of this strategy when coupled with an early intervention program are unknown.

6. SPECIFIC PROGRAM WITH EVALUATION DATA

High School Programs for Individual Students

Posse

Program description

Posse was begun in New York City as a response to the founders' observation that low-income and underrepresented students with whom they had worked in another youth program would go off to college but did not often succeed there. The students reported that they felt isolated and had no where to turn; they needed their "posse" with them to succeed. Between 1990 and 1997 the program, which is run by the Posse Foundation and funded by individual, corporate, government, and foundation grants, had placed 109 students at such prestigious universities as Vanderbilt, Rice, DePauw, and Lehigh. The program has three major objectives: (1) to provide college access *and success* for underrepresented students from the New York City area who probably would not otherwise attend college, and almost certainly would not be considered for highly selective colleges; (2) to help selective colleges and universities work toward improving the climate of diversity on their campuses; and (3) to graduate more students of diverse backgrounds from selective universities so that they may take on leadership positions in society and the workforce. The program has also been a site for experimentation with the Dynamic Assessment Process that focuses on identifying nontraditional high school students with strong leadership ability and potential for success.

Four principles undergird the program:

1. Educational progress, personal development, and academic achievement are advanced by cooperative and supportive conditions of learning.

2. Purposive involvement in social and political action designed to change the social context of one's learning contributes to a sense of polity that aids personal and academic development.

3. Cultural, political, and social intelligences, as complements to traditional criteria, are useful variables for consideration in selection of students for selective colleges.

4. Cultural, political, and social leadership are viable as categories of talents, and *comparable* to artistic, athletic, and scholastic abilities for the assignment of merit-based college scholarships.

There are four major components to the Posse program:

1. Recruitment and selection of students, which is a lengthy process of interview and group activities to assess skills like negotiation, intergroup relations, problem solving, listening, and presentation.

2. A 34-week training program consisting of skill-building workshops that occur weekly from January through August of the senior year and include team development, leadership and diversity training, time and financial management, and academic skills, as well as the Posse retreat and "test of fire," a secret set of activities designed as a culminating experience for the group from which "they leave understanding some very basic tenets of the relationship between individuals and their culture" (Bowman and Gordon, 1998, p. 34).

3. A full-tuition scholarship provided by the university partners.

4. An on-campus program, which includes a graduate student mentor assigned to each Posse; a PossePlus retreat, which involves up to 100 students from the larger student body each year; and ongoing weekly workshops. The program culminates with a Posse graduation that complements the university graduation.

Evaluation outcomes

The evaluation of Posse (Bowman and Gordon, 1998) consisted of comparing the 41 Posse members at Vanderbilt University in 1997 with 41 randomly selected athletes at the college, and 41 randomly selected students with similar SAT scores. The mean SAT score for the group of athletes was about 142 points higher than for the Posse group (1042 vs. 900), however the difference between their mean GPAs was just 3.17 versus 2.93 for the Posse students. Compared to the randomly selected non-athletes, neither their SAT scores (922 vs. 900) nor their GPAs (2.97 vs. 2.93 for Posse) were significantly different. Thus, the Posse students, while not performing at exceptionally high levels, were performing comparably to other students at Vanderbilt whose backgrounds approximated their own, and importantly, they were persisting at a very selective institution. The persistence rate for the 41 students was 92.7 percent compared to approximately 85 percent for other non-Posse comparison students. It should be noted that the Posse students were selected using very different criteria than those normally employed by the university, so the students' persistence and survival at the university were a testament to the viability of the Dynamic Assessment Process.

The program directors consider the peer support provided through team-building and the support of the mentor in the early years of college to be the key features of the program that contribute to students' success once they have been selected. The preparatory activities during the senior year are an important part of the program, but there has been no independent evaluation of their contribution to the success of the program. While directors were unable to provide an estimate of the per-student costs of the program, citing a number of idiosyncratic expenses and funding relationships, however, this is clearly a "high end" program that can only afford to serve a small number of students.

Neighborhood Academic Initiative (NAI)

Program description

The Neighborhood Academic Initiative (NAI) program began in 1990 by the University of Southern California (USC) in an attempt to have a direct impact on access to higher education in its own community. The program is limited to the area surrounding USC. Located in the central part of Los Angeles, this area is largely low income and most residents are either black or Hispanic. "Average" seventh grade students (mostly Bs and Cs) are selected into the program from one school in the

surrounding area based on two criteria: their stated willingness to learn; and a parent or guardian's willingness to support the "scholar" by attending classes and meetings and ensuring that the student can attend all required activities. The program lasts the 6 years from 7th to 12th grades, and it is intensive. Students are bused every morning for 2 hours of math and English enrichment classes at USC, and both students and parents meet on Saturdays for 4 hours of workshops. Students also receive tutoring twice a week for an hour and a half, and have a counseling session on Friday mornings that deals both with college preparation activities and socioemotional issues. During the summer, students are enrolled in additional classes. If they persist through the program, graduate, and meet minimum eligibility criteria, they are awarded a full-ride scholarship to the university, a selective, independent school whose tuition is about $20,000 per year.

NAI's mission statement includes the following language: "NAI provides multiple educational opportunities for students and parents to gain an understanding of themselves, and to obtain the skills that will enable them to assume a measure of control over the direction and quality of their lives. Students and parents are taught to believe in their limitless capacity to learn, to acquire the skills necessary to function in society. . . . ."(CHEPA, 1998, p.20). While the objective of the program ostensibly is to support underrepresented students in gaining access to a 4-year college education, the underlying principles of the program focus much more directly on community empowerment. There is a strong attempt in the program to draw faculty and staff from the local area and to integrate the local community into the program. Bringing the community into the classroom is considered important in helping students to develop strong identities in order to weather the challenges ahead.

Evaluation outcomes

To date, two cohorts of students have completed the program, having begun in the 7th grade. Of these entering students, 64 percent persisted through 6 years to graduation. Of those who graduated, over 60 percent went on to a 4-year research university—52 percent to USC—and 96 percent to some form of postsecondary education. In Tierney and Jun's (1998) evaluation of the NAI, no comparison data are provided, but in the high-risk neighborhoods and schools from which these students come, very few students go on to 4-year universities. Even without these data, it would seem that the NAI students are performing far above their peers in their own and similar neighborhoods. The evaluation does not report on how these students fare once they are in the university.

NAI serves between 40 and 50 new students per year, with a total enrollment in the program of about 360 students. Not counting the scholarships, the program costs about $2,000 per student annually, which is covered by the university and private foundation grants. Combined with the cost of scholarships, NAI is both labor intensive and expensive and, as such, serves a relatively small number of students. In fact, the program is so rigorous, requiring that students rise early and attend extra classes every day, including Saturday, over a period of years, that one might conclude that the persistence demonstrated in staying in such a program may be the most critical factor in student success.

A Better Chance (ABC)

Program description

A Better Chance is the oldest of the college access programs reviewed. It began in 1963 to give talented "minority" students a chance at a first-rate high school education outside of their own environs. Most students in the early days of the program were placed in boarding schools and thereby

were separated not only from their local schools, but also from their families and local communities. Implicit in the design of the program is the notion that bright students from low-income communities will fare better when removed from their own settings and placed into highly enriched schools and communities. Over the years, more students have attended day schools and a few excellent public schools (where students typically live in a nearby ABC house with a resident supervisor), but evaluators have concluded that students did do better in private school settings (Griffin, 1990).

ABC is an independent nonprofit organization that has enjoyed financial support from many of the major philanthropic organizations in the country, including the Ford Foundation, the Rockefeller Foundation, the DeWitt Wallace Foundation, and the Sloan Foundation, in addition to federal support in its early years. Headquartered in Boston, it sends many of its students to prep schools in the Northeast. The 160 member schools that take ABC students typically accept about 300 students per year in the program.

ABC's primary function is identifying talented students of color, usually from poor communities throughout the nation, who, once nominated by someone in their schools or by a member of the clergy, undergo a rigorous selection process including a battery of tests and extensive interview. The program also accepts students who do not test well if they can demonstrate strong ability in math, science, and English through other means, and if they demonstrate a strong desire to achieve. Once identified and accepted into the program, ABC matches students to member high schools that assume the costs of the students' education. ABC provides a liaison at the schools, but it does not offer other supportive services. Although in the early years of the program a summer session was provided, there are now no special ABC counselors, tutors, or mentors. Students are expected to make it on their own after a 3-day orientation, and the selection process takes into account that students will need to exhibit considerable self-confidence and independence.

Evaluation outcomes

ABC has been evaluated several times over the years (Griffin, 1990; Perry and Kopperman, 1973; Johnson and Prom, 1983), but evaluations have consisted largely of surveying alumni about their experiences and their success in postsecondary education. One of the few that have been done compares the rate of college graduation for ABC students to that of all black students. Of course, ABC students are not typical, and so a comparison to other, typical students adds little to our understanding of whether, and how, the program works to achieve its goals. Data on persistence rates of students in the program, that is, how many students who began the program as freshmen actually graduated with their class 4 years later, were not available. All evaluations, however, show that of those students who do graduate from secondary school, at least 96 percent go on to college, and of those, approximately 20 percent go to Ivy League schools. Thus, for students at an ABC school, the academic future looks bright.

The latest evaluation of the program was conducted in 1990 by DMP Associates in Detroit, Michigan. Surveys were sent to 210 alumni who had previously agreed to participate in the study, and 118 (56 percent) responded. A separate survey asking many of the same questions was sent to 1,114 current students, 184 (16 percent) of whom responded. Notably, most respondents to both surveys were female. Their responses show that these respondents viewed the program as very effective in preparing them academically for college. Virtually all of the respondents either had gone to college and received a degree or were intending to do so. However, among both alumni and current students, more than half reported feelings of isolation and/or depression, and 42 percent of current students reported that they did not like their school. On the other hand, almost all current students reported that they were engaged in many activities at school and that they did not have grades below C.

The picture that emerges from the survey data—albeit based on small samples of students—is that students emerge from these schools equipped to go on to college and to at least survive that experience (most respondents reported that they had Bs in college). The alumni reported feeling grateful for the opportunity, and 98 percent said they would recommend it to a friend. But the majority of the students expressed feelings of isolation and depression and worry about meeting the standards of the schools (reported by 71 percent of respondents). It is difficult to know how different these students' feelings were from those of other adolescents striving to do well in school since no comparisons were provided.

It is also worth emphasizing that ABC attempts to affect the life course of individual students selected to participate, not the schools or communities from which they come. Its cost is high on a per-student basis, and in terms of numbers of students affected, its impact is small, although no doubt profound for those individuals selected to participate.

Upward Bound

Program description

Upward Bound is a member of the TRIO family of programs supported by the U.S. Department of Education with the objective of increasing college-going rates of underrepresented students. It targets students who have completed the eighth grade, whose family incomes are below 150 percent of the poverty line, and/or who are potentially the first in their families to go to college. Students are usually recommended into the program by a counselor, and they are generally screened to exclude those with behavioral problems. Thus, most Upward Bound students are low-income minority students who have expressed a desire to go to college, but who lack the resources in their own homes and communities to support those aspirations.

Students may participate in Upward Bound for up to 4 years, through high school graduation, but they can also quit the program at any time. Attrition is a major problem. Approximately one-third of the students who begin the program quit by the end of their first year, and only about one-third of students actually complete the program (that is, they are still enrolled in the program in May of their senior year). The primary reason that students give for not completing is that they have taken a job. Not surprisingly, students who stay in the program to completion are much more likely to go on to college (85 percent).

Upward Bound provides a host of services to the 42,000 students it serves in 566 programs across the nation. A key aspect of the program is the 6-week summer program hosted by a college campus where students receive intensive pre-college academic preparation. Ninety percent of the Upward Bound programs include a residential component to the summer program designed to simulate an actual college experience. Extra academic support is also provided in the form of tutoring and academic courses usually held on Saturdays or after school to supplement the school's academic program, and academic, personal, and career/college counseling services are also provided. Most programs also expose students to cultural events, and financial aid counseling is offered. While there is considerable variability in implementation of programs, all are expected to offer the key components.

Evaluation outcomes

Upward Bound has been evaluated several times (Burkheimer et al., 1976; Burkheimer, Riccobono, and Wisenbaker, 1979; Myers and Schirm, 1997, 1999). Earlier evaluations compared Upward Bound students to other, similar students in their schools and focused on high school retention and the program's effectiveness in increasing college-going rates. In both of their studies, Burkheimer and colleagues found that while Upward Bound students were retained in high school at higher rates than their comparisons in the 10th and 11th grades, there was no significant difference by 12th grade. The Upward Bound students, however, were significantly more likely to enroll in college. An additional important finding was that the longer students remained in the program, the more likely they were to benefit from it and to go on to college.

The most recent evaluation of Upward Bound conducted by Myers and Schirm (1999) was much more sophisticated than earlier studies, and compared almost 1,500 Upward Bound students with about 1,200 randomly selected control students from 67 programs across the country. The evaluation also tracked students' length of tenure in the program. While program attrition remained a major problem, Myers and Schirm also found that the longer a student stayed in the program, the more likely the student was to show significant benefits, including going on to college. The primary immediate impact of Upward Bound was on increased numbers of social science and math credits earned in high school. It did not have a significant impact on in-school activities, participation in extracurricular activities, GPA, high school graduation, or college attendance. The researchers found some tentative evidence that the program may have an impact on college performance, with a small portion of the sample earning more credits in 4-year colleges, but the sample was too small and the students' duration in the program too short to draw firm conclusions. An important additional finding was that whites, Hispanics, males, and lower performing students with initially lower aspirations were more likely to benefit from the program than blacks, females, higher performing students, and those with higher initial aspirations. Myers and Schirm estimate that the per-student annual cost of Upward Bound is about $4,200.

Evaluators concluded that two important ways to improve the program would be to stem attrition and to enroll more high-risk students of the kind who seem to benefit most from the program. The latter recommendation seems reasonable; however, one cannot assume that the program dynamics would be the same if the mix of students were to change significantly. One might find that the presence of a significant number of lower risk students in the program is an important element in its effectiveness since these students provide important role models and probably are less labor intensive, freeing up time for program staff to devote to higher risk students.

High School Programs That Serve Students by Classroom

Three high school programs, AVID, Puente, and College Pathways, provide the services in the context of a classroom cohort. Students are selected to enter into a special class where the core of the program is administered and a part of the intervention is the interaction of students within this classroom context. AVID and Puente offer a daily class, beginning in the freshman year, where students form a cohort for at least 2 years. College Pathways goes into English classrooms in the sophomore year and recruits participants who will meet as a class on a weekly basis. An important difference between the classroom-based programs and the individual programs is that in the former there is more of an emphasis in working with the whole group, and the group is viewed as the target of intervention. In two of the programs, special attention is paid to group dynamics both in and outside the classroom.

Advancement via Individual Determination (AVID)

Program description

In some ways the Advancement via Individual Determination program is misnamed. The use of the word "individual" in the program title is at odds with its philosophy, which emphasizes "social scaffolding," defined by its authors as "the engineering of instructional tasks so that students develop their own competencies through their *interactions* with more capable peers or experts" (Mehan et al., 1996, p. 78), and the building of a *community* of peers to support students' aspirations. The program began in 1980 in one school in San Diego, California, and since that time has grown to more than 500 sites in eight states and abroad. Students eligible for AVID are high school students from low-income, ethnic, or linguistic minorities who have average to high achievement test scores, but C average grades. Students are selected by program coordinators, usually on the recommendation of counselors, and parents must sign a contract and agree to support their child in the program.

The key feature of the AVID program is what it refers to as "untracking," or placing underachieving students who would otherwise be in the general or vocational track into college preparatory classes. In addition, the students are provided with extensive support services. They meet daily in an AVID class with a trained AVID teacher who oversees a specific curriculum. Two days a week, students meet in small groups for academic tutoring. Two other days are devoted to writing development, note-taking, test-taking, and study strategies. Finally, 1 day a week is set aside for guest speakers, field trips, and other motivational activities. Sometimes speakers focus on information necessary to prepare for college. AVID also provides "public markers" for the students so that they identify with the program and each other—AVID students carry special notebooks with the AVID logo, eat lunch and socialize in the AVID room, and participate in a host of AVID-only activities.

Evaluation outcomes

The AVID program evaluation in 1996 (Mehan et al.) focused on 248 of 1,053 students who participated in the program for 3 years and 146 of 288 students who had participated for 1 year or less at eight San Diego high schools between 1990 and 1992. Selection of students was a function of who could be located at the time of the study. It is not known to what extent there were biases in the samples. It is also important to note that AVID does not keep track of the number of students who complete the program compared to those who begin it, and thus, no overall attrition data are reported.

Of the 248 students who completed the AVID program and were in the study sample, 48 percent reported attending a 4-year college immediately after high school, 40 percent attended a 2-year college, and 12 percent "were doing other things." The researchers note that these figures compare favorably with the data for San Diego public schools as whole, where 37 percent of students in the district went on to 4-year colleges. They also found that the AVID completers compared favorably to the students who only participated for 1 year or less; 34 percent of these students went on to 4-year colleges.

AVID appeared to be particularly effective with Hispanic and black students. For example, whereas only 25 percent of Hispanic students in the San Diego schools went on to 4-year colleges in 1992, 43 percent of AVID completers did so. Among black students, 55 percent of AVID students enrolled in 4-year colleges versus 38 percent for all other black students in the district. As with other studies reported here, evaluators found that the longer students stayed in the program, the better their outcomes. Importantly, the researchers also found that students from the lowest income stratum (less than

$20,000 annual income) enrolled in 4-year colleges at equal or higher rates than students from higher income strata (between $20,000 and $65,000), and AVID students from homes where neither parent had a college education were actually more likely to enroll in a 4-year college than those AVID students whose parents were college graduates. Thus, like Upward Bound, AVID appears to have its greatest effects on the most at-risk students.

Mehan et al. (1996) also attempted to interview students 1 and 2 years into college in order to determine if the program had an effect on college persistence. The researchers cautioned that their samples were too small to draw firm conclusions, but their findings did raise concerns. Interviewing 168 students who had been out of high school for 1 year and 46 who had been out for 2 years, they found very little upward mobility. That is, few students transferred from 2-year to 4-year colleges or began college during this period. About 7 percent transferred from 4-year to 2-year colleges, and 11 percent of these students who had enrolled in 4-year colleges in 1992 had dropped out.

While the AVID study provides tentative evidence that underachieving students with average or above average achievement test scores can be helped to go on to college at much higher rates, the lack of true controls and factors associated with the selection of AVID students suggest that it is important to exercise caution in interpretation of the data (Slavin and Fashola, 1998). Moreover, achievement data including GPAs are not reported, so it is difficult to know to what extent students' actual achievement had been improved by the program. On the other hand, AVID reports that the annual costs per student are only about $625, a relatively modest sum for the array of services provided. The researchers attributed much of the impact of the program to the transmission of "cultural capital" that it provided and the supportive networks of faculty and peers who helped students to redefine themselves as achievers.

Puente

Program description

The high school Puente project was an outgrowth of a highly successful community college program that served 38 California colleges, which was expanded in 1993 and adapted to 18 high schools. Puente serves a largely Hispanic clientele and has three major components: a 2-year college preparatory English class, a Puente counselor, and a mentoring program. The English class, taught by a Puente-trained English teacher, integrates community-based writing, portfolio assessment, and Hispanic-authored literature into the core college preparatory curriculum. The Puente counselor works closely with students and parents to ensure that students are enrolled in college preparatory courses, that they are making good progress, and that parents have the information they need to support their children's academic success. A Community Mentor Liaison (CML) recruits and trains successful, college-educated mentors from the community. Both the Puente counselor and the mentor are usually Hispanic, which is seen as important because these individuals are to serve as models of accomplishment as well as to share common experiences with students and families in both English and Spanish as necessary.

Puente accepts ninth grade students along a wide continuum of achievement. Students are usually selected based on recommendations of eighth grade counselors or teachers, and the most important criterion for acceptance is a desire to improve one's academic standing and go on to college. A typical class of 30 Puente students is composed of equal proportions of low achievers (1.4 to 2.2 GPA), moderate achievers (2.3 to 2.9 and 3.0 to 3.5 GPA), and high achievers (above 3.5 GPA). Students should not test lower than 2 years below grade level in reading in order to be able to succeed in a rigorous college preparatory curriculum. Parents are interviewed as a part of the selection process, and they must

agree to support their children in the program and to attend workshops and functions designed to include them in their children's education. Because the Puente class substitutes for the students' regular English class and thus students are programmed into it, attrition from Puente is quite low: approximately 88 percent of Puente students are still in the program at the point of graduation. Most attrition from the program occurs when students move away or drop out of school altogether.

Evaluation outcomes

The Puente program was evaluated in 1998 by Gándara et al. using several samples of students. Data were collected on more than 900 Puente students and 900 non-Puente students over 4 years in all four grades of high school on aspirations, attitudes toward school and achievement, and preparation for college, and on 75 Puente students from three schools who were matched with 75 non-Puente students from the same schools on age, ethnicity, sex, eighth grade GPA, and reading scores. This sample was followed longitudinally for the 4 years of high school and used to test for differences in high school GPA, college preparatory course-taking, and college matriculation that could be attributed to participation in the program. Additionally, ethnographies were conducted on a sample of 27 students in three high schools to help interpret the quantitative data.

Evaluators found that Puente students were significantly better prepared to enter college than their non-Puente peers with respect to students' own assessment of their knowledge of what was needed to apply successfully to college and their record of admissions test-taking. Puente students were also significantly more likely to place a high value on going to college and to be willing to give up other important things in their lives in order to achieve this goal. They were also more likely to want to be known as a "good student" by others, a finding that was heartening in that it combated the problem of peer pressure to not "act white" by excelling in school. While the pattern of attitudinal measures was heavily weighted in favor of Puente participants both cross-sectionally and longitudinally over the 4 years, because pre-test data were not collected on the samples, it is impossible to know to what extent selection factors may have had a role in producing these differences. However, longitudinal data suggest that selection was almost certainly not a factor in measures of college preparation.

With respect to academic measures, there were no significant differences between Puente students and their non-Puente controls on high school retention, GPA, or course-taking by the end of 12th grade. However, there were some differences in college matriculation. Forty-three percent of Puente students went on to 4-year colleges, compared to just 24 percent of the controls, and 41 percent of Puente students went to 2-year colleges, compared to 51 percent of non-Puente controls. Thus, a total of 84 percent of Puente students went to either a 2- or 4-year college compared to 75 percent of non-Puente students. Because the evaluation study ended in the same year that the students entered college, the evaluators did not collect data on students' persistence in college and longer term outcomes remain unknown.

The Puente evaluators concluded that the program had a real impact on students' attitudes, aspirations, and preparation for going to college, as well as their rate of college enrollment. Noting that non-Puente students with the same academic profiles did not apply to or gain acceptance to colleges in nearly equivalent numbers, the Puente evaluators concluded that the program helped students to better exploit their potential. They attributed this in large part to the network of supportive adults and peers in the students' lives, and especially to their counselors. Fifty-eight percent of the more than 900 Puente students reported that their counselors influenced their decision making about going to college compared to just 15 percent of a similar number of non-Puente classmates. Survey responses from high school principals indicate that parent involvement in the Puente program is very high, and Puente students themselves report significantly higher involvement in their schooling by their parents than non-Puente

Hispanics, white, and Asian students. This is particularly significant given the widespread finding in the literature that Hispanic parents tend to be less overtly involved in their children's schooling than nonminority parents. Evaluators speculated that the high level of parental involvement was related to the fact that the program actively sought to incorporate the parents' culture and language into all parent functions, and that counselors and mentors were able to communicate with parents in their own language and encourage them to become involved in their children's schooling.

The Puente program reports its annual per student costs to be about $500, making it one of the lowest cost programs reviewed.

College Pathways

Program description

The College Pathways program is a project of the Fulfillment Fund that was incorporated in Los Angeles, California, to work with disadvantaged youth within the school district in 1977. It serves students in seven Los Angeles Unified School District high schools. The program is based on five goals: love of learning, increased self-expectation, realized achievement, college matriculation, and community service. The program targets historically underrepresented students who are potentially the first in their families to attend college. Students are selected into the College Pathways class based on a belief that they can profit from the program and are neither "good" nor "bad" enough to warrant special attention from other sources. Parents are not required to support their children in the program in order for them to be admitted. Some of the students in the program would otherwise be eligible for higher education but might not go because of lack of information and appropriate preparation.

Students in the College Pathways 10th grade English classes are visited each week by program staff or volunteers, who follow a curriculum that involves academic support in reading, writing, public speaking, and critical thinking. Information is provided about college admissions, financial aid, and career exploration, and students are required to visit at least two colleges each year. College visits, including an occasional overnight, are included in the program. Similar activities are provided in the junior and senior years, but students meet only once every 2 weeks at this point, and they are called out of regular classes to attend the College Pathways meetings. According to the evaluators of the program, many students do not attend these meetings. A separate mentoring program is also attached to the program; however, little information was available on how this operated.

An advantage of the program at the 10th grade level is that it takes place in the students' regular classrooms, thereby reducing the problem of attrition at this grade level. However, since attendance is voluntary in the 11th and 12th grades, there is a problem of attrition at this point.

Evaluation outcomes

While the program has not been formally evaluated, it has been studied by the Center for Higher Education Policy Analysis (CHEPA). CHEPA (1998) investigated the claims that College Pathways students attended 4-year colleges in substantially higher percentages than other similar students in the district and the state (about 30 percent versus 18 percent and 14 percent, respectively), but found difficulty confirming the findings because of an inadequate record-keeping system. Nonetheless, it was clear that the program was having an impact on students' aspirations for postsecondary education. The

primary difficulty with the program, however, appeared to be a significant drop-off in program attendance after the 10th grade such that only between 29 percent and 44 percent of original participants appeared to be in the program at the point of graduation. However, of those retained, all were reported to go on to college. Moreover, classroom observations did suggest that students were being exposed to material and opportunities that would not have been available to them under ordinary circumstances, and this almost certainly had an impact on some students' decisions to pursue postsecondary education. The program costs of about $980 per student annually place it at the lower end of the student-centered programs.

K-12 Programs by Classroom or Community

While most college preparation programs reviewed focused on the secondary school years, and especially high school, a few began earlier. I Have a Dream was one such program.

I Have a Dream (IHAD)

Program description

The I Have a Dream Foundation was established in 1986 to launch local programs based on the experience of Public School 121 in New York City, where Eugene Lang challenged the sixth graders in 1981 to complete high school with the promise that he would give each graduate a scholarship to college. Today there are more than 160 programs serving 12,000 student in 60 cities, and a great deal has been written about the program. The personal and financial commitment to see students through the difficult years of middle school and high school, combined with the promise of a tangible means for getting to college if they successfully navigate that system, has captured the public's imagination and led some to conclude it is "the most exciting program" around (Levine and Nidiffer, 1996). Each program must follow guidelines set out by the foundation, but there is considerable latitude to vary by site. Sponsors may be individuals, groups, or corporations, and the project site can be at a school or in the community. Particular elements of the program, however, must be present, that is, college scholarships, counseling, mentoring, and tutoring. Students are to be adopted as a class or group, preferably in the 3rd grade, or when they are 8 or 9 years old, but it can be at any point in elementary school, and the sponsors are to maintain the commitment to continue working with the students through 12th grade. Thus, IHAD is one of the few programs that monitors students through several school transitions. It is also one of the few programs that directly address the costs of a college education.

Evaluation outcomes

While a great deal has been written in the popular press about the IHAD program, few attempts have been made to carefully evaluate it. In one, Kahne and Bailey (1997), conducted an extremely careful and thoughtful study of two Chicago area IHAD sites. They studied two classes for 2 ½ years, beginning when the students were in the 11th grade and following them through high school graduation. The classes were located in very low-income, high-risk neighborhoods, and the students had begun the program when they were in the sixth grade. Almost all students were black or Hispanic. The two sites were selected because they were "models" with respect to implementation and record-keeping. They were models in other ways as well. Unlike all other sites in the Chicago area, only these two had maintained the same project director for the entire duration of the program, and each had also benefited from extensive additional staff, including Americorps volunteers and Princeton Project 55 program interns. Thus, they had enjoyed almost unparalleled stability and extraordinary staff resources.

Evaluators selected the classes immediately preceding these classes in each of the two schools as controls, so that the control students came from the same neighborhoods and schools and differed in age only by 1 year. The high school graduation rates of the IHAD participants was 76 percent at one of the sites and 69 percent at the other, more than twice the graduation rates for the control schools (37 percent and 34 percent, respectively) (Kahne and Bailey, 1997). It was difficult to make comparisons for college enrollment because detailed followup data were not available for the controls. The evaluators compared the college-going rates of the IHAD students with the averages for all black and Hispanic students in the Chicago Public Schools. Given the extremely low socioeconomic profiles of the IHAD schools, it is likely that these comparisons would have been biased in favor of the comparison students. Nonetheless, the overall college enrollment rate for IHAD participants was roughly three times that of the comparisons. (Data were not provided on college persistence.) Clearly, these programs were extremely successful in meeting their goals of high school graduation and college enrollment. The evaluators sought to understand *what elements* of the program appeared to be responsible for this success, and which could be successfully replicated for policy development purposes.

Kahne and Bailey found that the essential element that had contributed to the successful outcomes in the IHAD program as it was implemented in these two sites was the development of strong trusting relationships among the Project Coordinator (PC), staff, sponsors, and the students. These relationships allowed for the transmission of social capital that aided the students in understanding their options, increasing their aspirations, and achieving their goals. Because the role of the PC is critical to the success of the enterprise, these two sites were at a significant advantage by having highly competent, long-term PCs. Such continuity was seen as an important factor in students' maintaining contact with the program and even influencing them to return when they had taken a leave for a period of time.

Kahne and Bailey also noted, however, that the relationships were not universally successful and depended to some extent on the match of personality, interests, sex, and ethnicity. For example, sometimes white sponsors, with little personal understanding of the students' circumstances, found it difficult to create a meaningful relationship and maintained their distance from the students while continuing to provide financial support. In contrast, the Princeton interns and Americorps volunteers were sometimes able to form relationships with students with whom the PC had been unsuccessful.

Importantly, more than half of the student participants had been placed in parochial schools as part of the IHAD program. Recognizing the limited ability of the Chicago public schools to provide consistent monitoring and personal relationships with students, the program worked with families to remove the most challenging students from the public schools. In a review of other Chicago area sites, the evaluators found that although this is one strategy used by IHAD programs, it was not nearly as prevalent a practice in other Chicago area programs. It is thus difficult to separate the independent effects of IHAD activities from those of the parochial schools in which the students were enrolled. It was notable, however, that 4-year versus 2-year college attendance was up to more than four times higher for students attending parochial schools compared to those who had stayed in the Chicago public schools.

IHAD does not have a particular role for parents, because one philosophy of the program is that students should not be excluded because their parents are unwilling to participate. While no particular demands are placed on parents, neither is there a strong attempt to involve parents or to seek their advice. The evaluators worried that the lack of contact with parents could also undermine their role, sending the unintentional message that parental opinions, knowledge, and values were not important. The evaluators did not uncover evidence from students that their relationship with their parents had been eroded, but some students raised questions about the program's failure to respect parents' values in sensitive issues such as birth control.

A typical IHAD program may cost between $1,000 and $3,000 per year per student, not counting the cost of college scholarships. Costs vary depending on the extent to which students are rerouted into private or parochial schools. (Both private schools and parents also made substantial contributions to the private schooling costs, which are not considered in these figures.) It is also important to note that the other Chicago IHAD programs had neither the same level of resources as the programs studied, including the additional personnel, nor could they boast the impressive outcomes for these programs.

Kahne and Bailey (1997) conclude that IHAD has the potential to create exceptional outcomes for students at high risk for school failure, largely due to the profound relationships of trust that can be developed within the context of the program over a long period of time. However, staff turnover was common in most programs, with PCs averaging 2 years in this very demanding position. The PC's critical role in developing relationships with the students, the unique set of skills required of the PC, and the huge demands of the job (students described contacting the PCs at all hours of the night to have them intervene in family and personal crises), can be a weakness in the program. The evaluators also acknowledge that by seeking school placements outside of the public schools, and relying to a large extent on Catholic schools to help provide the social capital to support the program's students, the structures of public schooling are left untouched. Thus, the program can be extremely effective for small numbers of students, but may not be capable of creating change in the structures and environments that place students at risk in the first place, or that fail to aid them to overcome their disadvantages.

Kahne and Bailey report that it may be best to view the expansion of efforts such as IHAD as "scaling down" from large bureaucratic programs that exist in schools rather than "scaling up," which means that relatively few students can be touched by such a program. It is the personal, consistent contact with a caring and knowledgeable adult who is skillful in connecting with the student that appears to be at the heart of the program's success—an element that depends to a great extent on locating and retaining a relatively unique individual in the role of PC—and one that by its nature, cannot be created on a large scale. Unfortunately, success may also depend on removing students from the schools and environments that the program cannot fix.

K-12 Programs That Serve Students by Schools

Very few programs took a systemic approach to stimulating college enrollment among underrepresented students. As the exhibits show, most target individual students at the secondary or high school level; a few reach down into the lower grades, but the focus remains mostly on individuals or small groups of students. Two of the programs studied, GE College Bound and Project GRAD, have attempted whole-school or systemwide reform.

GE's College Bound Program

Program description

The College Bound program was launched in 1989 by the GE Fund as an ambitious, 10-year, $20 million effort to double or significantly increase the college-going rate in selected high schools. The program, targeted to low-income and inner-city communities, has made 5-year grants of between $250,000 and $1 million to 19 high schools in 17 communities. The College Bound approach is to allow schools and communities to devise strategies that work best for them, but that are geared toward doubling (or significantly increasing) the college-going rate for the whole school or for a substantial targeted

population within the school. The major requirements for the competitive grants are that the schools agree to make necessary changes in curriculum and practice that will operate to raise the achievement of students in the schools, and that they involve GE personnel in the design of the program and, to the extent possible, as volunteers working within it. Additionally, schools must propose plans for professional development, curricular modification, proposed structural changes (e.g., block scheduling), and student enrichment activities. Local communities are given a great deal of flexibility to design a reform strategy.

Most programs work entirely within the targeted high school, but some involve feeder middle and elementary schools as well. Some program components are found at nearly all the sites, such as field trips to colleges and cultural sites, SAT preparation courses, homework assistance, college counseling, and summer academic enrichment programs. However, each school has developed its own approach and emphases, and different schools serve quite distinct populations. Most program sites are east of Mississippi, but one is in New Mexico and one is in Texas.

Evaluation outcomes

The GE College Bound program has been recently evaluated by Bailis et al. (1999). The evaluators had to base their analyses on data that had been collected by each school in the program, and these data were not always consistent or adequate. They also found it impossible to identify appropriate control schools or groups of students for each of the varied experiments, and for comparison, they chose the schools' baseline college-going rates and national samples. Given these limitations, the findings for the study are promising.

Four factors contributed to sustainability of programs over time: taking a whole-school (versus a targeted population) approach; the presence of one or more strong program champions (often offseting the high turnover of school administrators); ongoing relationships with the local GE partner; and supplemental grants from GE (which helped to deepen the school's investment in the program). The researchers report that college-going was increased significantly at 7 of the 10 programs for which there were sufficient data to draw conclusions, and the effects were greatest for those schools where the initial college-going rate was lowest. College-going rates more than doubled at four of the five sites with initial rates below 50 percent. In fact, College Bound graduates were more likely to attend college than comparable students nationally (76 percent of College Bound graduates versus 71 percent of all students nationally). The differences in college-going rates were greatest for those students whose parents had little or no college education.

The study by Bailis et al. was unique among those reviewed in that it attempted to answer the question of whether the program had longer term effects on college retention and completion. The evaluators interviewed 361 graduates from two different program cohorts by telephone and found that 87 percent of College Bound students completed their first year of college, compared to just 70 percent nationally. Moreover, only 28 percent of College Bound students had dropped out of college without a degree, compared to 37 percent nationally. It is not clear, however, which program features might have led to these outcomes, nor how comparable these students were with the national sample.

While the GE evaluation was challenged in some ways by the diversity of program types and sites that it attempted to study, it also had a unique advantage in that it was able to look somewhat dispassionately at different program features across sites because there was no particular program model to which all participants were wedded. That allowed the evaluators to observe the factors that operated to sustain healthy programs.

Program evaluators chose not to cite per-pupil costs associated with the program because of the difficulty in specifying who was a participant in what were largely whole-school initiatives. It is important to note, however, that while the investment in the schools was large, it was spread over many years and many students.

In sum, the GE evaluation appears to point to several particularly important findings: (1) schools can improve the preparation they provide for underrepresented students if given sufficient and sustained resources and support; (2) allowing schools to adopt strategies, within a common broad framework, that work for their local context is a viable approach to improving college access; (3) students who come from homes with the lowest educational levels may be the most advantaged by these programs; (4) effective college access programs may have longer term effects on college retention and graduation; and (5) utilizing volunteers for the purpose of mentoring is a complex and difficult undertaking.

Project GRAD

Program description

Project GRAD assumes that significant numbers of students cannot be moved toward high school graduation and college enrollment unless the schools that educate them are changed, starting at the earliest grades. Project GRAD was first initiated in 1993-94 in the Houston Independent School District to improve the instructional culture and effectiveness of the school system in dealing with at-risk students. It began with one nine-school feeder system and has subsequently been installed in two more feeder systems. The program grew out of the Tenneco Presidential Scholarship Program that provided college scholarships for Davis High School graduates. Recognizing that challenging students in high school to graduate and go on to college was too late to change the fortunes of many at-risk youth, the Houston district, together with a retired CEO of a Fortune 500 company and other individuals, agencies, and businesses, set out to rethink the education that these children were receiving from the time they first entered the system.

Project GRAD's philosophy is that educational failure can be prevented through a strong primary curriculum that builds students' self-discipline and confidence while stimulating a love for learning. By working with a feeder pattern of schools, some of the problems of student mobility are addressed as well. Even if students change schools, as long as they remain in the same cluster of high school feeder schools (which research shows that many do), they will continue to be monitored in the program. What is unique about the Project GRAD program is that it is systemic, following students from their first days in school into high school, and that the program developers sought out the best researched models they could find and wove them into a total reform package designed to meets the needs of the Houston schools.

The four areas that the program targets for reform are math, reading, instructional environment, and parent involvement. Thus, MOVE IT Math and the University of Chicago School Math Program (UCSMP) address mathematics instruction from the first years through high school; Success for All (SFA) and Cooperative Integrated Reading & Composition (CIRC) are focused on reading and writing development from kindergarten or first grade through middle school; Consistency Management & Cooperative Discipline (CMCD) is a classroom management and self-discipline program that is implemented throughout the grades, including high school, to address issues of classroom learning environment and school climate; and the Communities in Schools (CIS) program provides for the social

service needs of pupils and their families throughout the grades, and organizes parent involvement activities. Finally, the Scholarship program is designed to attack motivational issues and make it possible for all students who qualify to go on to college. Each of these programs has a considerable body of literature behind it and uses research-based methods.

Another important aspect of the program has been the extensive staff development provided by a number of the program developers (SFA, CIRC, CMCD) that also entails up to six followup sessions during the school year. Teachers expressed a great deal of satisfaction with staff development, and requested more. A critique of Project GRAD made by some researchers, however, is that the program does not incorporate a community voice sufficiently into its plan, and thus it may lack sensitivity to some cultural features of the communities it serves.

Evaluation outcomes

Project GRAD pays a great deal of attention to school climate as a precursor to student achievement. In the evaluation conducted by Opuni (1998), the Comprehensive Assessment of School Environments (CASE) instrument was used to measure and monitor a number of factors that contribute to positive or negative learning environments in schools, including community relations, school administration, and student-student and student-teacher relations. Opuni found that in both 1995-96 and 1997-98, all schools fell into the normal range on these dimensions, considered to be quite a feat in itself because that is atypical for schools serving at-risk urban youngsters. Unfortunately, pre-Project GRAD data had not been collected, so it is not possible to know to what extent the program was responsible for these fairly positive outcomes. Both pre-test and post-test data were collected, however, on teachers' perceptions of similar factors in a survey of project impact on the schools. With 93 percent of teachers responding in the first cluster of feeder schools, the findings suggest that there has been significant improvement across all dimensions of school climate, including teachers' expectations of students. Moreover, the increased level of satisfaction among teachers bodes well for a decrease in teacher mobility.

With respect to student discipline, referrals to the principal's office across the feeder elementary schools declined by 74 percent since the inception of the program in 1994-95. Student achievement is also on the upswing. Across all cohorts of students in the original feeder elementary school cluster, as well as in the 10th grade at the high school, Project GRAD students are outperforming their peers in comparison schools in math and, in some cases, in reading on the Texas Assessment of Academic Skills (TAAS) test.

Project GRAD has found that the longer the students stay in the program, the higher they achieve above grade-level expectations. Thus, intensity of exposure to the program appears to have an effect on outcomes. However, Project GRAD schools have a serious problem of both student and teacher mobility, such that it was impossible to draw conclusions from some reading tests administered because not enough students remained in the same schools to allow for sufficient sample sizes. At the high school level, the numbers of graduating seniors has almost doubled, and four times as many students now go on to college compared to the pre-1988 graduates (the year that the $1,000 annual scholarship became available).

Project GRAD is a large-scale effort to reform Houston's schools and to provide every student with a greater opportunity to learn. It involves research-based instructional reforms and addresses many of the shortcomings of low-income, inner-city schools. Although it is relatively new, it appears to be creating important changes in school climate and some student achievement indicators. Nonetheless, there are still many problems to confront. Student mobility is high, and no program can have a significant

impact when students are not exposed to it consistently and over a sufficient period of time. Most of the resources of Project GRAD (apart from the scholarships) are front-loaded into the elementary and middle schools, with the hope that by strengthening students' skills and attitudes early, less extensive intervention will be necessary later. However, we have seen that students in at-risk environments can remain vulnerable throughout their schooling, and programs that provide one-on-one monitoring of the progress toward graduation and college enrollment for adolescents can also capture students who would otherwise be lost to the system. Project GRAD stops short of this kind of intervention at the high school level.

Project GRAD does not report per-student costs of the program, although they do note that over $10 million has been raised for the program from a large number of private sponsors. With perhaps 25,000 to 30,000 students now affected by the program, the actual per-student cost is probably relatively low when compared to programs that focus on individual students. Nonetheless, it is an endeavor that has required significant private funding to implement.

Statewide Programs Serving All (Underrepresented) Students

Both federal and state governments support various early intervention programs to increase access to higher education for underrepresented students. The greatest investment by the federal government has been in the TRIO programs, of which Upward Bound (reviewed earlier) is the largest. While these programs are funded by the federal government, they are administered locally, and therefore each differs somewhat according to local circumstances. Legislation was passed in 1992 establishing the National Early Intervention Scholarship and Partnership Program (NEISP), which set out matching funds for states that agree to provide both scholarship funding and support services for underrepresented students. Total appropriations in 1998 were only $3.6 million. Nine states were participating in the NEISP program in 1998. The most recent reauthorization of the Higher Education Act in October 1998 included a $120 million allocation for FY1999 for a new program, Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP), which supercedes NEISP. Matching funds are available to both states and educational consortia. The conditions for participation are essentially the same as for the NEISP program, with minor modifications. Because GEAR UP is new, little is yet known about how it is faring. Moreover, because education is largely left up to the individual states, there is no federal program that could be evaluated as a strictly federal enterprise. There are, however, numerous statewide initiatives.

Perna and Swail (1998) identified 15 states with active early intervention programs to help underrepresented students gain access to college. While there are others, most do not provide evaluation data that allow for an assessment of their effectiveness. While states may support programs that fit into other categories, such as high school programs that serve individual students, the statewide programs tend to be unique in that they attempt to impose strategies that have an overall impact. Three such programs —Florida's College Reach Out Program, Indiana's Career and Postsecondary Advancement Center/ 21st Century Scholars, and Minnestota's Postsecondary Enrollment Options Program—represent quite different strategies and have been evaluated for their effectiveness.

Florida's College Reach Out Program (CROP)

Program description

The College Reach Out Program is a statewide program designed to strengthen the educational motivation and preparation of low-income, educationally disadvantaged students in grades 6 through 12 who "otherwise could be unlikely to seek admission to a community college, state university or independent postsecondary institution without special support and recruitment efforts" (Section 240.61 (1) Florida Statutes). The program recruits the students and provides them with academic enrichment activities and career and personal counseling.

Forty-six of 67 Florida counties, with approximately 6,200 students in grades 6 to 12, participated in CROP in 1995-96. The overwhelming majority of students served were black (78 percent), and the remaining small percentages were white, Hispanic, and Asian. The highest percentages of students participated in the 7th, 8th, and 11th grades, with an average of 56 percent of students returning to the program each year. Each local program differed in its mix of program activities; however, grants are competitive and programs must present a comprehensive package of support elements, including academic support and college readiness components, in order to obtain funding. The cost of the program in 1995-96 was reported to be $365 per student.

Evaluation outcomes

CROP was evaluated by Florida's Postsecondary Education Planning Commission (PEPC) in 1998. The study is somewhat unique in that it attempted to evaluate the program from several perspectives: it compared the 1995-96 CROP high school graduates with a random group of non-CROP graduates (CROP students are not representative of all Florida students) for postsecondary choices; it compared the 1991-92 CROP graduates with a random group of non-CROP graduates for postsecondary outcomes in 1995-96; and it investigated the characteristics of the most successful CROP programs to determine which program features appeared to be associated with successful outcomes.

The 1991-92 cohort of CROP students differed little from the non-CROP comparison students with respect to enrollment in postsecondary education (52 percent of CROP versus 49 percent of non-CROP), and 78 percent of both groups went to community colleges first. About half of the students who completed community college continued on to a 4-year college. The percentage of students completing degrees within 5 years was nearly identical—only 6 percent of both groups had received an associate's degree and 3 percent a bachelor's degree. Twenty-seven percent of CROP students and 25 percent of non-CROP students were still enrolled in college 5 years later. Although CROP students were disproportionately low income and educationally disadvantaged, they performed similarly to the non-CROP students, which suggests that the program may have had the effect of leveling the playing field for the students in the program.

The 1995-96 cohort of CROP high school graduates, however, actually outperformed its random comparisons with respect to enrollment in postsecondary institutions (51 percent versus 43 percent). Of those CROP students continuing their education, 36 percent enrolled in 4-year institutions compared to only 29 percent of the non-CROP students. Of these students, 71 percent of CROP students and 78 percent of non-CROP students had a GPA of 2.0 or better in their freshman year. Fifty-three percent of CROP students and only 39 percent of non-CROP comparisons were required to take remedial courses in core subjects in college. These outcomes were especially noteworthy since criteria for

participation had been made more stringent by 1995-96, and 79 percent of participating CROP students were both economically and educationally disadvantaged. This fact was evident in the 10th grade comparisons of reading scores in which the non-CROP students significantly outperformed the CROP students. For both the 1991-92 and 1995-96 cohort comparisons, certain questions are left unanswered. Because there were no preprogram comparison data presented, and because students were not matched on important background characteristics, it is very difficult to know which outcomes can be attributed to the program and which are a result of selection factors such as willingness to seek help, motivation to pursue postsecondary education, parental support, and persistence.

The evaluation study is particularly helpful in its investigation of factors that very successful programs identified as key to their effectiveness. The three programs with the best results all agreed that parental involvement, close tutor/teacher/counselor relationships with students, and continuous and consistent contact were critical factors in their success. Parental involvement in the program was a proxy of sorts for parental support of the students, which proved to be very important for their academic advancement. This evaluation, like so many others, also concluded that the close personal relationship with a key supportive adult was an effective strategy for success, and consistent contact between students and their mentors, tutors, or teachers was key to the strength of that relationship. Other factors that were cited by a number of program sites included the availability of tuition scholarships (not all programs provide scholarships), summer programs and field trips that add to student retention, and community involvement, which can also be instrumental in gaining financial support for the program.

CROP appears to be providing important support and information for students such that many who would not otherwise choose postsecondary education appear to be doing so, and their survival rates in college appear comparable to other more typical students in the Florida schools. On the other hand, it serves a relatively small number of students, and there is also high turnover in the program—about half of students do not return from year to year. Florida's experience does, however, confirm a common finding in the literature: the most effective programs provide consistent monitoring of students in the context of a close relationship between individual students and at least one supportive adult.

Indiana Career and Postsecondary Advancement Center (ICPAC)/21st Century Scholars

Program description

The Indiana Career and Postsecondary Advancement Center was created in 1986 by the Indiana General Assembly to help prepare more of Indiana's students for higher education. In 1990, the 21st Century Scholars, a program designed to provide financial support to ensure that all eligible students in the state, regardless of family income, could attend a postsecondary institution, became part of the ICPAC portfolio. Indiana's postsecondary initiatives grew out of a growing concern that a relatively small percentage of the state's high school students were pursuing a college education, which was having a negative effect on the state's economy. Research indicated that the state's economy was lagging in the production of knowledge-based employment opportunities that attract college graduates. State legislators reasoned that these were the kinds of jobs that were created by entrepreneurs, and to create the jobs, it would first be necessary to educate the students.

Indiana represents a unique and interesting approach to the problem of increasing college-going among its youth. It is a multi-pronged effort, including services, scholarships, and a careful study of the attitudes, conditions, and resources surrounding postsecondary education. The program has also been generously supported by the Lilly Endowment and is an example of state-foundation partnership.

In 1986, Indiana ranked 39th in the nation with respect to percentage of high school graduates pursuing postsecondary education. Only 37.5 percent of high school graduates enrolled in any kind of higher education institution. To approach the problem systematically, the state partnered with the Lilly Endowment to study why students made the postsecondary choices that they did and to identify the barriers to postsecondary education. Gary Orfield of Harvard University and Faith Paul of the Public Policy Research Consortium in Chicago were commissioned to study the challenges that the state faced and the options that lay before it in attempting to change college-going patterns in Indiana.

Orfield and Paul (1994) found that while Indiana's students expressed high aspirations for professional employment, many had little understanding of what was required to realize their dreams. Although students enjoyed easy access to counselors in the high schools, counselors lacked a good understanding of the higher education system, and many students—especially those of color and those from low-income backgrounds—lacked both information and financial resources to make college a real possibility. Orfield and Paul found that the school system was segregated by vocational and college preparatory tracks, and that if a student was routed into the vocational track because of lack of information or understanding of the requirements for professional employment, it was nearly impossible to become college eligible. Gatekeeping courses were reserved for the students who declared their academic intentions early. Based on the information available from the report, the ICPAC fine-tuned its programs and dedicated itself to two major efforts: collection, analysis, and dissemination of information about college-going, and financial incentives and support to attend college.

State planners concluded that they had two choices in how to spend their limited state dollars: on an intensive program that would provide extensive support for a few students with greatest need, or on an extensive program that would provide information and financial support for large numbers of students (Gillie, 1999). Indiana chose the latter. ICPAC has focused on three strategies:

- Providing a massive guidance information and awareness campaign that begins in the 7th grade by contacting every family with initial information about postsecondary options, including college, then continuing with a flow of information through the 12th grade that provides all necessary steps to prepare for and apply to college.

- Restructuring the secondary curriculum to provide academic rigor to more students, including introduction of the Core 40 program, a statewide campaign to encourage all students to take the basic college preparatory course load that will qualify them for admission to a 4-year college if they choose to apply.

- Reducing the financial barrier to college through state grant and scholarship programs that provide between 80 percent and 100 percent of tuition and fees depending on the student's academic standing, and scholarships through the 21st Century Scholars program, which guarantees fully paid college tuition to all low-income students who are Indiana residents and meet the eligibility criteria for admission.

ICPAC has instituted other strategies as well to strengthen the curriculum, reduce the costs of college, and stimulate greater interest in postsecondary education:

- Indiana pays the cost of the Advanced Placement exam for any student wishing to take the test in English, math, or science.

- The Indiana University Early College Program is available at over 60 high schools to allow students to take college courses through distance education.

Evaluation outcomes

Because Indiana viewed the low college-going rate of its youth as an economic and quality-of-life problem for the *state* (as opposed to individual students), it has evaluated its efforts by comparing its standing on a number of dimensions against rankings for the states. Thus, Indiana judges its efforts at stimulating college matriculation as successful because its ranking in the nation on this indicator rose from 39th in 1986 to 20th in 1996. Progress on this goal was particularly strong in the period after the publication of *High Hopes, Long Odds* in 1994. Between 1990 and 1995, the percentage of Indiana students enrolling in higher education grew from 48.6 percent to 56.3 percent.

Indiana has been especially effective in moving more students into its college preparatory track. Between 1994-95 and 1997-98, interest in the Core 40 program grew from 11 percent to 37 percent of ninth graders. Likewise, the percentage of students graduating with the state's Academic Honors Diploma increased from 5.5 percent in 1990 to 15.3 percent in 1997.

The 21st Century Scholars program comprises a parent education component supported by the Lilly Endowment, an outreach and support component supported by NEISP, and a service learning component sponsored, in large part, by the Prudential Youth Leadership program. Americorps staff provide tutoring, mentoring, and monitoring of student progress in high school. Students are invited to sign up for the Scholars program at the end of eighth grade. They must be eligible for state assistance and pledge to take the Core 40 courses, to abstain from drugs and alcohol, and to graduate with at least a 2.0 average. If a student meets all of these criteria, 21st Century Scholars promises to ensure the full cost of tuition at any Indiana college or university to which the student is accepted. (Because it is a last-dollar scholarship, the program pays the difference between all other scholarships and aid and the student's need.)

In the first cohort of students in 1990, 5,757 students signed up and 2,621 (46 percent) met the conditions of the scholarship. Of these, 1,421 students (54 percent) used their award to attend college in the first year, and 1,246 returned in the second year. Data for the second cohort to reach college were similar, with more students enrolling initially (6,347), 44.5 percent of whom met the conditions. Some 65 percent of those students meeting the conditions of the scholarship attended college. Between 1989 and 1999, Indiana doubled the number of financial aid offers it made to college-going students and tripled the amount of funding it provided.

Thus, as Gillie (1999) pointed out, Indiana found itself at a crossroads in 1990. It assessed its problem of undeveloped human resources and decided to use its limited resources to provide *extensive services* that targeted a large percentage of the state's students with information and substantial financial support for college. The evidence suggests that Indiana's strategies have been successful.

Minnesota's Postsecondary Enrollment Options Program (PEOP)

Program description

Minnesota's Postsecondary Enrollment Options Program was instituted in 1985 as a direct response to increased pressure in the state for "choice" programs in the form of vouchers. From the perspective of students and families, the PEOP offered the opportunity to take college courses that would count for credit both at the secondary and the college level, thereby giving students a head start on college and reducing the costs of a higher education (all courses were paid for by the state). Minnesota's PEOP has been evaluated recently, and it is a model that other states have used, sometimes for different purposes. For example, New Jersey has experimented with enrolling some at-risk high school students into community colleges as a means of providing an environment—and an incentive to continue schooling—aimed at stemming dropout rates and better meeting the needs of students who do not fit well into the structure of high school. Minnesota does not address this potential benefit, and the criteria for attendance at the postsecondary institutions are stringent enough that at-risk students are unlikely to be accepted—in most cases high school students must meet higher criteria for admission than regularly enrolled college students. Nonetheless, the Minnesota experience provides important insights into the potential of this type of strategy to increase student achievement and provide increased options for completing high school and increasing postsecondary enrollment.

In order to participate in PEOP, students wishing to attend classes at a state 4-year college or university must be in the upper one-third of their class; for enrollment in the community colleges, students must be in the upper half of their class. Students may take courses in both their junior and senior years, and most elect to take social studies and language courses. Grades and credit received at the college are transferred to the high school; most students' GPAs are relatively unaffected because students tend to get similar grades in college courses as in high school classes. In 1994-95, about 6 percent of all juniors and seniors in Minnesota's public schools participated in the program; almost two-thirds of participants were female, and about three-quarter were seniors.

Evaluation outcomes

The evaluation of the PEOP program was conducted by the Program Evaluation Division of the Office of the Legislative Auditor in 1996. It is largely a descriptive study, employing no comparisons or controls to assess student outcomes. However, considerable survey data were collected on all participants (students, parents, teachers, and administrators) to assess strengths and weaknesses of the program. Students and parents were found to be overwhelmingly happy with the experience, and two-thirds of students could not name a single weakness with the program. Program administrators, however, were less enthusiastic. Almost one-third of postsecondary administrators cited lack of academic or emotional maturity on the part of student participants as a significant weakness, while high school administrators worried that students took nondemanding courses and that the program actually cost the districts money (since colleges received per-course compensation that otherwise would have gone to the high schools). Since no data were collected on the extent to which this program stimulated college-going or captured students who might not otherwise have gone on to college, it is unknown whether the program had such an impact. However, data on who participates in the program and to whom the costs and benefits accrue provide some insights into this issue.

While minority students appeared to participate in the program commensurate with their percentage in the Minnesota population (about 10 percent), there were significant differences in

participation according to income. Families with incomes above $45,000 were much more likely to participate than low-income families. Moreover, when the costs of attending the program were calculated, evaluators found that upper income families were the greatest beneficiaries of the program since they would have had to pay college tuition in order for their children to take the same courses that they took for free in high school. Lower income families could have depended on some aid from the state to meet these college expenses in any case. Also, whereas the program was envisioned as adding only marginal costs to the college budgets, since they were only required to accept students on a space-available basis, the program cost an estimated $10 million in 1994-95 because institutions tended to accommodate as many students as were eligible and applied. Since the state covered the costs of educating the students, there were financial incentives for accepting more students. In sum, the PEOP program, while producing highly satisfied "customers" and providing more school choice options for Minnesota's high school students, also operates to redistribute state funds to the most affluent portion of the population. It substantially decreased the cost of education for the participating families, who were disproportionately in upper income brackets, but had little effect on the cost of higher education for the poorest families since they were much less likely to participate.

Lower income families tended to participate less for several reasons. One, transportation was a problem—families had to make their own arrangements for transportation, and those living closer to colleges, or who had more ready means of transportation, were more likely to attend. Second, the criteria established for participation excluded lower performing students and those who were limited English proficient. Finally, no special effort was made by the state agencies to encourage low-income families to participate, and those families who were most adept at gaining information, i.e., those with the greatest social capital, were most likely to apply.

Postsecondary enrollment programs for high school students can be used to achieve numerous goals, including providing more challenging curriculum for high achieving students, offering incentives for students who may have struggled in high school to continue their education, and facilitating a college experience for some borderline students who might not have considered higher education as an option. Fiscal policies can also be constructed that redistribute benefits to the most disadvantaged in society. However, most of these goals were not part of the Minnesota initiative, so while this evaluation yields the finding that such a program can be highly effective in producing a satisfied clientele, Minnesota has not tested the limits of its program with respect to increasing access for underrepresented students.

Issues in Evaluation

The programs included in this section incorporate the more exacting evaluations of program effectiveness found in the literature. Nonetheless, it is apparent that there is great variability in the rigor of these studies, and in almost cases, they could be improved considerably with a few standard modifications. Few evaluations employed true control groups, that is, comparisons between students who had been randomly selected into the program and those who had not, or comparisons to students who had not participated in the program and who were matched with participants on significant background characteristics like socioeconomic status, race, and ability scores. Drawing comparisons to "all other students nationwide" or to other students in the same school district or state ignores the fact that the program participants were normally selected into the program by some process, and they were *not* like all other students.

An important way to strengthen comparisons and partially control for bias in the control groups is to collect baseline data on students from the point just prior to their entry in the program and then to compare their growth over time with that of students who are not in the program. However, studies with baseline data on student participants were rare. It was also uncommon to find studies that

had true longitudinal comparisons, beginning with a baseline data point. Most studies simply collected outcome data at one point in time, leaving unknown what differences could be observed from pre-program to post-program.

Some programs simply provided information about responses to surveys conducted on selected participants (those they were able to locate and who agreed to participate, introducing substantial selection bias). It was often impossible to determine what the response rates were to these surveys, and thus to what extent they may have represented a highly skewed sample (for example, only those individuals who were either happy enough with the program, or upset enough with it, to want to have their say). While these data can serve an important purpose in understanding how students experience a program and how the program might be strengthened or improved, they are of limited value in measuring how effective the program was compared to other kinds of interventions or no intervention at all.

There also seemed to be a lack of specificity of outcomes and measurement. For example, many programs purported to "double" college-going but were not specific about what they meant by "college." Was it part-time attendance at a community college while holding a full-time job? Was it full-time attendance at a 4-year college? The answer to this question has major implications for the likelihood that the students will persist in college and actually earn a degree. It was also rare to find programs that measured anything beyond college-going, such as grade point averages, college admissions scores, or some other measure of achievement, including first-year persistence. It was not possible to know whether the program influenced achievement or simply matriculation to a postsecondary institution. The few studies that did report such data seem to indicate that affecting achievement is a much more difficult task than affecting college-going. Since high school achievement is a much stronger predictor of persisting in college and completing a degree than simply matriculating, these missing data are important.

Few programs kept careful track of participant attrition. Usually the number of students who are measured on some dimension(s) for the purposes of evaluation were actually a subset of those who started the program. Seldom was it possible to discern the percentage these students represented of that initial cohort. This practice introduces enormous bias into the findings, since students who persist are more likely to be successful in any undertaking than those who do not. The failure to keep track of program attrition means that important opportunities are lost to learn more about what might help keep students in programs and on track for high school graduation and postsecondary education.

While many people in education decry the mere notion of cost-benefit analysis as a simplistic response to a complex problem, the virtual absence of any discussion about the costs of programs and program components as they relate to outcomes is of concern. Given that resources are limited, it would seem reasonable to deploy available resources in the most effective way possible. However, in the absence of any evaluation of what works best *at what cost*, it is impossible to make these judgments. Cost information sought from the programs studied was often difficult or impossible to obtain. Even where such data are reported, it is with the caveat that it is generally the evaluator's best guess, because very few definitive analyses of program costs exist.

Social science research is fraught with limitations and pitfalls, and research in schools is many times more difficult because of severe restrictions placed on researchers, the need for approval to ask even the most benign questions of a minor, and the myriad problems of tracking highly mobile students who tend to change schools or leave them altogether. Nonetheless, the incorporation of a few standard methodological procedures into the studies that are done could strengthen greatly our knowledge base about how and how well these programs work. Improving evaluation procedures could provide the data necessary to improve programs.

7. CONCLUSIONS

Section 3, Study Methods, describes how programs that met the criteria for being college preparatory and that had conducted evaluations with sufficient rigor to allow some conclusions about their effects were identified. It is certain that some important programs were missed in this process. The scope of this activity is enormous, and there is presently no central repository for information about these programs. While there are many notable efforts to improve student achievement in the K-12 sector, and many thousands of programs in schools across the nation, the scope of this study was limited to programs that focused *specifically* on college enrollment as their chief outcome goal. However, even with these acknowledged limitations, much has been learned about ways to improve the chances for underrepresented students going on to higher education.

Effective Practices

From the review of evaluative studies of early intervention programs, the most effective programs appear capable of at least doubling the college-going rate of participants. Students and families report that these programs open both eyes and doors to postsecondary possibilities. The passion, dedication, and commitment that are evidenced by staff and directors of these programs point the way to successful strategies. The literature also suggests how the strategies these programs employ may be implemented in different contexts. The programs that appeared to be the most effective had the following elements in common:

- Providing a key person who monitors and guides the student over a long period of time—a mentor, program director, faculty member, or guidance counselor. Studies are not clear on which of these is most effective.

- Providing high-quality instruction through access to the most challenging courses offered by the school ("untracking"), through special coursework that supports and augments the regular curricular offerings (tutoring and specially designed classes), or by revamping the curriculum to better address the learning needs of the students.

- Making long-term investments in students rather than short-term interventions. It was clear that the longer students were in a program, the more they were reported to benefit from it.

- Paying attention to the cultural background of students. Many programs reported having greater success with one group of students than another. The background and expertise of the staff and directors likely helped them make cultural connections with students.

- Providing a peer group that supports students' academic aspirations and that meets for academic as well as social and emotional support.

- Providing financial assistance and incentives. Financial assistance is important for access to academic leveling experiences—college visits and SAT preparation courses—as well as access to monetary support to make college a realistic possibility for some students. Scholarships can make the difference between going to college or not for many low-income students (Thomas, 1998; St. John, 1990; Gándara, 1995).

Program Limitations

Limitations for many of these program efforts included the following:

- **Program attrition.** Few programs either report or know how many students who begin their program actually complete it, although an estimated third to half of all students who begin in these programs leave them before completion or before high school graduation. Nonetheless, programs commonly report very high percentages of participants going on to college based on counting only the number of participants in the graduating class. Because of cost and the labor-intensive nature of the services provided, few students in any given school are normally included in such a program. Based on *High School and Beyond* data, Adelman (2000) estimates that no more than 11.4 percent of black and 5.3 percent of Hispanic students participate, *at any level*, in such programs.

- **Participant selection.** Few programs were explicit about how students were selected to participate and about the characteristics of the most successful participants. This kind of information is critically important to judge who can best benefit from the program.

- **Participation of males.** Boys are seriously underrepresented in these programs. Generally, only about one-third of participants are males.

- **Records on program contact.** Few programs keep records on the amount of contact that participants have with the program. Similarly, programs are often vague about what constitutes completion or retention in the program. Without this information it is difficult to know if a program can be credited for student outcomes, or if they are a result of other factors.

- **Sector approach.** Programs are usually nonsystemic. Since most programs serve only one sector of the K-12 system, services are noncontinuous. Without a continuous intervention, gains made at one level may be lost at the next.

- **Academic achievement.** While some programs were able to demonstrate that they doubled college-going among their participants (compared to controls), evidence that programs are effective in raising academic achievement as measured by grades or test scores is limited.

- **Type of postsecondary institutions.** Because measured achievement is not generally raised, programs are most effective at increasing college-going to community colleges and less selective 4-year colleges. They do not appear to have a major impact on increasing the numbers of students who go on to selective colleges and universities who would not otherwise have done so.

- **Long-term outcomes.** Little is known about long-term outcomes for students. Most programs so not have data that show if they increase the rates at which participants obtain college degrees when compared to students who have not participated in the program.

- **Costs.** Very little is reported about the costs of these programs. This review does not address the relationship between costs and outcomes.

Program Evaluation

Perhaps most troubling was the finding that so few programs had engaged in a thorough evaluation of their activities. Program staff commonly operated on the assumption that their programs were effective, but data were not available to support that belief. Evaluation may be viewed as a threat to the program rather than a means to improve it, document its effectiveness, or better understand how it works. Because of the widespread absence of evaluation, many questions remain unanswered:

- How effective are most of these programs at meeting their goals of increasing college-going rates when compared to similar students who have not been enrolled in such a program?
- While careful monitoring and guidance of students is clearly beneficial, who might most effectively provide this service—teaching staff, counselors, mentors, or specialized program staff?
- How can programs increase their impact on student achievement?
- How can programs most effectively stem student attrition?
- What happens to graduates of these programs after they matriculate in college? Are students equipped to succeed in a college environment?
- How can programs maximize their resources? Which features of the programs are most (cost) effective?

To answer these questions, it would be important to:

- Collect baseline data on program participants and comparisons. Were there differences between participants and comparison students before the program intervention?
- Monitor and report program attrition. How many students are lost along the way?
- Carefully match control groups (assuming random assignment of participants is not possible) and report differences.
- Give attention to measuring the outcomes that the program purports to be affecting.
- Compare program features and outcomes. What specific features of the program are most responsible for its effects? What attracts students to the program and fosters their retention?

Connecting Programs With School Reform Efforts

It should not be surprising that these early intervention programs appear to have little effect on academic achievement. The programs, whether community based, school district sponsored, or partnered with postsecondary education, tend to be peripheral to the K-12 schools. They augment and supplement what schools do, but do not fundamentally change the ways schools interact with students. Thus, these successful programs work to emulate the features of schools that routinely send high

percentages of their graduating students on to college, but they only do it for part of the day, and often outside of school time. The rest of the time, students are exposed to the same school practices that have been proven to be unsuccessful for them. Good programs tend to help students maximize their assets, expand their goals, and show evidence of doubling the college-going rate of their participants, but do not appreciably alter their academic achievement. For changes in academic achievement to occur, and access to highly selective institutions to be substantially increased, schools would need to adopt the proven strategies that early intervention programs have incorporated.

REFERENCES

Adelman, C. (1999). *Answers in the Tool Box. Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment.* Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.

Adelman, C. (2000). Participation in Outreach Programs Prior to High School Graduation: Socioeconomic Status by Race. Paper presented at the ConnectED Conference, San Diego, CA, January 10.

Akerheilm, K., Berger, J., Hooker, M., and Wise, D. (1998). *Factors Related to College Enrollment.* Final Report. Washington, DC: U.S. Department of Education. Office of the Undersecretary.

Atkinson, D., Jennings, R., and Livingston, L. (1990). Minority students' reasons for not seeking counseling and suggestions for improving services. *Journal of College Student Development,* 31, 342-350.

August, D., and Hakuta, K. (1997). *Improving Schooling for Language Minority Children. A Research Agenda.* Washington, DC: National Research Council. Institute of Medicine.

Bailis, L. N., Melchior, A., Sokatch, A., and Sheinberg, A. (1999). *Evaluation of the GE Fund College Bound Program.* Waltham, MA: Center for Human Resources, Heller Graduate School, Brandeis University.

Bailis, L.N., Hahn, A., Aaron, P., Nahas, J. and Leavitt, T. (1995). *A New Field Emerges: College Access Programs.* Waltham, MA: Brandeis University, Center for Human Resources.

Barr, R., and Dreeben, R. (1983). *How Schools Work.* Chicago: University of Chicago Press.

Baumrind, D. (1989). Rearing competent children. In *Child Development Today and Tomorrow,* edited by W. Damon, 349-378. San Francisco, CA: Jossey-Bass..

Berliner, D., and Biddle, B. (1996). *The Manufactured Crisis: Myths, Fraud, and the Attack on America's Public Schools.* Reading, MA: Addison Wesley.

Bowen, W., and Bok, D. (1998). *The Shape of the River. Long Term Consequences of Considering Race in College and University Admissions.* Princeton NJ: Princeton, University Press.

Bowman, C., and Gordon, E. (1998). *A Connoisseurial Evaluation of the Posse Program.* Pomona, NY: Gordon and Gordon Associates in Human Development, Inc.

Brooks-Gunn, J., Denner, J., and Klebanov, P. (1995). Families and neighborhoods as contexts for education. In *Changing Populations, Changing Schools: Ninety-fourth Yearbook for the National Society for the Study of Education, Part II.*, edited by E. Flaxman and A. Passow. Chicago: National Society for the Study of Education.

Brophy, G., and Good, T. (1974). *Teacher-Student Relationships: Causes and Consequences.* New York: Holt, Rinehart & Winston.

Burkheimer, G., Levinsohn, J., Koo, J., and French, A.. (1976). *Evaluation Study of the Upward Bound Program.* Research Triangle Park, NC: Research Triangle Institute.

Burkheimer, G., Riccobono, J., and Wisenbaker, J. (1979). *Final Report. Evaluation Study of the Upward Bound Program --A Second Follow Up.* Research Triangle Park, NC: Research Triangle Institute.

Cabrera, A., Stempen, J., and Hansen, W.L. (1992). Exploring the effects of ability to pay on persistence in college. *Review of Higher Education*, 13, 303-313.

California Department of Education (CDE). (1999). *California Basic Educational Data System.* Available online. www.cde.ca.gov/demographics/reports/statewide/sums98.htm.

Carnevale, A., Haghighat, E., and Kimmel, E. (1998). *The Role of Tests in College Admission: Evaluating Skills for Higher Education.* Princeton, NJ: Educational Testing Service.

Carroll, J.B. (1963). A model of school learning. *Teachers College Record*, 64, 723-733.

Chapa, J. (1997). *Hopwood in Texas: The Untimely End of Affirmative Action.* Cambridge, MA: The Civil Rights Project, Harvard University.

Chávez, L., and Serna, C. (1999). Access to A - F Courses and Racial Composition of the School. Paper presented at the American Educational Research Association Conference, Montreal, Canada, April.

Center for Higher Education Policy Analysis (CHEPA). (1998). *National Study of College Preparation Programs. Program Summary: Los Angeles.* Unpublished internal document.

Chronicle of Higher Education. (1998). *Almanac of Higher Education, 1998-99.* Washington, DC: Chronicle of Higher Education.

Clark, B. (1980). The "cooling out function" revisited. *New Directions for Community Colleges*, 8, 15-31.

Clark, R. (1983). *Family Life and School Achievement: Why Poor Black Children Succeed and Fail.* Chicago: University of Chicago Press.

Coleman, J., Campbell, E., Hobson, C., McPartland, J., Mood, A., Weinfield, F., and York, R. (1966). *Equality of Education Opportunity.* Washington, DC: U.S. Government Printing Office.

College Board (1999a). *Trends in College Pricing.* New York: The College Board.

College Board (1999b). *Trends in Students Aid.* New York: The College Board.

Crouse, J., and Trusheim, D. (1988). *The Case Against the SAT.* Chicago: University of Chicago Press.

Darling, N., and Steinberg, L. (1997). Community influences on adolescent achievement and deviance. In *Neighborhood Poverty. Volume II. Policy Implications in Studying Neighborhoods*, edited by J. Brooks-Gunn, G. Duncan, L. Aber. New York: Russell Sage Foundation.

Darling-Hammond, L., and Green, J. (1994). Teacher quality and equality. In *Access to Knowledge. The Continuing Agenda for Our Nation's Schools. Revised Edition*, edited by J. Goodlad and P. Keating, New York: The College Board.

Delgado-Gaitán, C. (1990). *Literacy for Empowerment: The Role of Parents in Children's Education.* London: Falmer Press.

del Pinal, J, and Singer, A. (1997). *Generations of Diversity: Latinos in the United States.* Washington, DC: Population Reference Bureau.

Delpit, L. (1995). *Other People's Children. Cultural Conflict in the Classroom.* New York: The New Press.

DiMaggio, P. (1982). Cultural capital and school success: The impact of status culture participation on the grades of U.S. high school students. *American Sociological Review,* 47, 189-201.

Douglas, W. (1989). New spin on getting in college: Applicants hire private counselors. *Newsday,* 6, February, 4.

Eaton, S., and Meldrum, C. (1996). Broken promises. In *Dismantling Desegregation. The Quiet Reversal of Brown vs the Board of Education,* edited by G. Orfield and S. Eaton. New York: The Free Press.

Elmore, R. (1996). *Getting to scale with good educational practice. Harvard Educational Review,* 66, 1-26.

Epstein, J., and Karweit, N. (eds.). (1983). *Friends in School: Patterns of Selection and Influence in Secondary Schools.* New York: Academic Press.

Etzioni, A. (1995). *New Communitarian Theory: Persons, Virtues, Institutions, and Communities.* Charlottesville, VA: University of Virginia Press.

Ferguson, R. (1998). Can schools narrow the black-white test score gap? In *The Black-White Test Score Gap*, edited by C. Jencks and M. Phillips. Washington, DC: The Brookings Institution.

Fine, M. (1991). *Framing Dropouts: Notes on the Politics of an Urban Public High School.* Albany, NY: State University of New York Press.

Fordham, S., and Ogbu, J. (1986). Black students' school success: Coping with the burden of "acting white." *Urban Review,* 18, 176-206.

Gándara, P. (1995). *Over the Ivy Walls: The Educational Mobility of Low-income Chicanos.* Albany, NY: State University of New York Press.

Gándara, P., and Lopez, E. (1998). Latino students and college entrance exams: How much do they really matter? *Hispanic Journal of Behavioral Sciences,* 20, 17-38.

Gándara, P., Mejorado, M., Gutiérrez, D., and Molina, M. (1998). *Final Report of the High School Evaluation, 1994-98.* Davis, CA: University of California.

Gándara, P., Rumberger, R., Larson, K., and Mehan, H. (1998). *Capturing Latino Students in the Academic Pipeline*. Berkeley, CA: University of California: California Policy Seminar and Chicano/Latino Policy Project.

Gillie, S. (1999). *An Extensive System for Postsecondary Encouragement*. Indianapolis, IN: Indiana Career and Postsecondary Advancement Center.

Gladieux, L., and Swail, W.S. (1998). *Financial Aid is Not Enough: Improving the Odds of Collage Success for Low-Income Minority Students*. Washington, DC: The College Board.

Goldhaber, D., and Brewer, D. (1996). *Evaluating the Effect of Teacher Degree Level on Educational Performance*. Rockford, MD: Westat.

Grebler, L., Moore, J., and Guzmán, R. (1970). *The Mexican American People: The Nation's Second Largest Minority*. New York: Free Press.

Griffin, J. (1990). *A Better Chance, Inc. Internal Program Review. Preliminary Findings*. Submitted to DeWitt Wallace-Reader's Digest Fund. Boston: A Better Chance, Inc.

Grossman, J., and Garry, E. (1997). Mentoring—A proven delinquency prevention strategy. *Juvenile Justice Bulletin*, April. Washington, DC: U.S. Department of Justice.

Grossman, J., and Tierney, J. (1998). Does mentoring work? An impact study of the Big Brothers Big Sisters Program. *Evaluation Review*, 22, 403-426.

Grubb, W. N. (1991). The decline of community college transfer rates: Evidence from national longitudinal surveys. *Journal of Higher Education*, 62, 194-222.

Gurin, P. (1999). *Expert Testimony in the Cases Gratz et al., v Bollinger et al., and Grutter et al., v Bollinger et al*. Ann Arbor: University of Michigan.

Haro, R., Rodríguez, G., and Gonzales, J. (1994). *Latino Persistence in Higher Education: A 1994 Survey of University of California and California State University Chicano/Latino Students*. San Francisco: Latino Issues Forum.

Hanushek, E. (1994). Money might matter somewhere: A response to Hedges, Laine, and Greenwald. *Educational Researcher*, 23, 5-8.

Haycock, K. (1998). Good teaching matters. How well-qualified teachers can close the gap. *Thinking K-16*, 3, 1- 14.

Heller, D., and Laird, T. (1999). Institutional need-based and non-need grants: Trends and differences among college and university sectors. *Journal of Student Financial Aid*, 29, 7-24.

Henderson, R. (1997). Educational and occupational aspirations and expectations among parents of middle school students of Mexican descent: Family resources for academic development and mathematics learning. In *Social and Emotional Adjustment and Family Relations in Ethnic Minority Families*, edited by R. Taylor and M. Wang. Mahwah, NJ: Lawrence Erlbaum Associates.

Horn, L., and Carroll, C.D. (1997). *Confronting the Odds: Students at Risk and the Pipeline to Higher Education.* NCES 98-094. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Hutchinson, R.L., and Reagon, C.A. (1989). Problems for which seniors would seek help from school counselors. *The School Counselor,* 36, 271-80.

Jarret, R. (1997) Bringing families back in: Neighborhood effects on child development. In *Neighborhood Poverty. Volume II. Policy Implications in Studying Neighborhoods,* edited by J. Brooks-Gunn, G. Duncan, and L. Aber. New York: Russell Sage Foundation.

Jencks, C., and Phillips, M. (1998). *The Black-White Test Score Gap.* Washington, DC: Brookings Institution Press.

Jencks, C., Smith, M., Acland, H., Bane, M.J., Cohen, D., Gintis, H., Heynes, B., and Mickelson, R. (1972). *Inequality.* New York: Harper & Row.

Jencks, C., and Meyer, S. (1990). The social consequences of growing up in a poor neighborhood. In *Inner-city Poverty in the United States,* edited by L. Lynee and M. McGeary. Washington, DC: National Academy Press.

Jessor, R. (1993). Successful adolescent development in high risk settings. *American Psychologist,* 48, 117-126.

Johnson, S., and Prom, S. (1983). *Factors Related to Science and Mathematics Career Choice in a Minority Population: A Survey of Alumni of A Better Chance, Inc.* Boston: A Better Chance, Inc.

Kahne, J., and Bailey, K. (1997). *The Role of Social Capital in Youth Development: The Case of "I Have a Dream."* Chicago: University of Illinois at Chicago, College of Education.

Karoly, L., Greenwood, P., Everingham, S., Hoube, J., Kilburn, R., Rydell, C.P., Sanders, M., and Chiesa, J. (1998). *Investing in Our Children: What We Know and Don't Know About the Costs and Benefits of Early Childhood Interventions.* Santa Monica, CA: RAND Corp.

King, J. (1996). *Student Aid: Who Benefits Now?* College Board Policy Analysis. New York: The College Board.

Krop, C., Brewer, D., Gates, S., Gill, B., Reichardt, R., Sundt, M., and Throgmorton, D. (1998). *Potentially Eligible Students: A Growing Opportunity for University of California.* PM-808-EDU. Santa Monica, CA: RAND Corp.

Kunen, J. (1996). The end of integration. *Time,* 29 April, 38-45.

Lareau, A. (1989). *Home Advantage: Social Class and Parental Intervention in Elementary Education.* London and New York: Falmer Press.

Latino Eligibility Study. (1994). Report No. 4. Santa Cruz, CA: Regents of the University of California.

Lee, H. (1998). Oakland teachers decry UC rebuff of top students *San Francisco Chronicle,* 17 April, A21.

Levin, S. (1999). Social and psychological evidence on race and racism. Chapter 3 in *Compelling Interest. Examining the Evidence on Racial Dynamics in Higher Education,* edited by M. Chang, D. Witt, J. Jones, and K. Hakuta. Report of the AERA Panel on Racial Dynamics in Colleges and Universities.

Levine, A., and Nidiffer, J. (1996). *Beating the Odds: How the Poor Get to College.* San Francisco, CA: Jossey-Bass.

Mahoney, J., and Cairns, R. (1997). Do extracurricular activities protect against early school drop out? *Developmental Psychology*, 33, 241-253.

McDonough, P. (1997). Choosing Colleges. *How Social Class and Schools Structure Opportunity.* Albany, NY: State University of New York Press.

McDonough, P., Korn, J., and Yamasaki, E. (1997). Admissions advantage for sale: Private college counselors and the students who use them. *Review of Higher Education*, 20, 297-317.

McLeod, J. (1987). *Ain't No Making It. Leveled Aspirations in a Low-Income Neighborhood.* Boulder, CO: Westview Press.

Mehan, H., Villanueva, I., Hubbard, L, and Lintz, A. (1996). *Constructing School Success: The Consequences of Untracking Low-achieving Students.* New York: Cambridge University Press.

Mejorado, M. (1999). Puente: Creating a Model for Mentoring Chicano High School Students. Paper presented at the American Educational Research Association Conference, Montreal, Canada, April.

Miller, L.S. (1995). *An American Imperative: Accelerating Minority Educational Achievement.* New Haven: Yale University Press.

Minicucci, C., and Olsen, L. (1992). An Exploratory Study of Secondary LEP Programs. Vol. V. *Meeting the Challenge of Language Diversity: An Evaluation of Programs for Pupils with Limited Proficiency in English.* Berkeley, CA: BW Associates.

Moles, O. (1982). Synthesis of research on parent participation in children's education, *Educational Leadership*, 40, 44-47.

Morantz, A. (1996). Desegregation at risk. Threat and reaffirmation in Charlotte. In *Dismantling Desegregation. The Quiet Reversal of Brown v Board of Education,* edited by G. Orfield and S. Eaton. New York: The New Press.

Mortenson, T. (ed.). (1999). *Postsecondary Education Opportunity.* Washington, DC: Author.

Myers, D., and Schirm, A. (1997). *The National Evaluation of Upward Bound. The Short Term Impact of Upward Bound: An Interim Report.* Washington, DC: U.S. Department of Education, Office of the Undersecretary.

Myers, D., and Schirm, A. (1999). *The Impacts of Upward Bound: Final Report for Phase I of the National Evaluation.* Washington, DC: U.S. Department of Education, Office of the Undersecretary.

National Research Council, Panel on High Risk Youth. (1993). *Losing Generations: Adolescents in High Risk Settings*. Washington DC: National Academy Press.

Noddings, N. (1995). Teaching themes of care. *Phi Delta Kappan*, 76, 675-79.

Oakes, J. (1985) *Keeping Track: How Schools Structure Inequality*. New Haven, CT: Yale University Press.

Oakes, J. (2000). *Becoming Good American Schools: The Struggle for Civic Virtue in Education Reform*. San Francisco, CA: Jossey-Bass.

Olsen, L., Jaramillo, A., McCall-Perez, Z., and White, J. (1999). *Igniting Change for Immigrant Students*. Oakland, CA: California Tomorrow.

Opuni, K. (1998). *Project GRAD. Graduation Really Achieves Dreams, 1997-98. Program Evaluation Report*. Houston, TX: Project GRAD.

Orfield, G. (1996). The growth of segregation. In *Dismantling Desegregation. The Quiet Reversal of Brown v the Board of Education*, edited by G. Orfield and S. Eaton. New York: The New Press.

Orfield, G., and Eaton, S. (1996). *Dismantling Desegregation: The Quiet Reversal of Brown v the Board of Education*. New York: The New Press.

Orfield, G., and Paul, F. (1994). *High Hopes, Long Odds: A Major Report on Hoosier Teens and the American Dream*. Indianapolis, IN: Indiana Youth Institute.

Orfield, G., and Yun, J. (1999). *Resegregation in American Schools*. Cambridge, MA: Harvard Civil Rights Project.

Outreach Task Force. (1997). *New Directions for Outreach*. Oakland, CA: Board of Regents of the University of California.

Postsecondary Education Planning Commission (PEPC). (1998). *Statewide Evaluation of Florida's College Reach-Out Program. Annual Report: 1995-96 Cohort*. Tallahassee, FL: PEPC.

Program Evaluation Division, Office of the Legislative Auditor (1996). *Postsecondary Enrollment Options Program*. St. Paul, MN: State of Minnesota.

Perna, L., and Swail, W.S. (1998). Early Intervention Programs: How Effective Are They at Increasing Access to College? Paper presented at the annual meeting of the Association for the Study of Higher Education, Miami, Florida, November 7.

Perry, G., and Kopperman, N. (1973). *A Better Chance: Evaluation of Student Attitudes and Academic Performance, 1964-1972*. Boston: A Better Chance.

Postsecondary Education Opportunity. (1999). Refocusing student financial aid: From grants to loans, from need to merit, from poor to affluent. *Postsecondary Education Opportunity*, 82, 1-4.

Puma, M., Karweit, N., Price, C., Ricciuti, A., Thompson, W., and Vaden-Kiernan, M. (1997). *Prospects: Final Report on Student Outcomes*. Washington, DC: U.S. Department of Education, Office of the Under Secretary.

Rendón, L. (1994). Validating culturally diverse students: Toward a new model of learning and student development. *Innovative Higher Education*, 19, 33-50.

Rendón L., and Garza, H. (1996). Closing the gap between two- and four-year institutions. In *Educating a New Majority: Transforming America's Educational System for Diversity*, edited by L. Rendón and R. Hope. San Francisco: Jossey-Bass.

Rendón, L., and Hope, R. (1996). *Educating a New Majority: Transforming America's Educational System for Diversity*. San Francisco, CA: Jossey-Bass.

Rogers, A., and Taylor, A. (1997). Intergenerational mentoring: A viable strategy for meeting the needs of vulnerable youth. *Journal of Gerontological Social Work*, 28, 125-140.

Romo, H., and Falbo, T. (1996). *Latino High School Graduation. Defying the Odds*. Austin, TX: University of Texas Press.

Rosenholtz, S., and Simpson, C. (1984). The formation of ability conceptions: Developmental trend or social construction? *Review of Educational Research*, 54, 31-64.

Rumberger, R. (1991). Chicano drop outs. In *Chicano School Failure and Success: Research and Policy Agendas for the 1990s*, edited by R. Valencia. London and New York: Falmer Press.

Rumberger, R., and Larson, K. (1998). Student mobility and increased risk of high school dropout. *American Journal of Education*, 107, 1-35.

Schuman, H., Steeh, C., Bobo, L., and Krysan, M. (1997). *Racial Attitudes in America. Trends and Interpretations*. Cambridge, MA: Harvard University Press.

Shields, P., Esch, C., Humphrey, D., Young, V., Gaston, M., and Hunt, H. (1999). *The Status of the Teaching Profession: Research Findings and Policy Recommendations*. Santa Cruz, CA: Center for the Future of Teaching and Learning.

Slavin, R., and Braddock, J. III. (1994). Ability grouping: On the wrong track. In *Access to Knowledge. The Continuing Agenda for Our Nation's Schools*. Revised Edition, edited by J. Goodlad and P. Keating. New York: The College Board.

Slavin, R., and Fashola, O. (1998). *Show Me the Evidence. Proven and Promising Programs for America's Schools*. Thousand Oaks, CA: Corwin Press, Inc.

Slavin, R., and Karweit, N. (1985). Effects of whole class, ability grouped, and individualized instruction on mathematics achievement. *American Educational Research Journal*, 22, 351-367.

Sorensen, S., Brewer, C., and Brighton, E. (1995). *Increasing Hispanic Participation in Higher Education: A Desirable Public Investment*. Santa Monica, CA: RAND Corp., Institute on Education and Training.

Sprinthall, R., Sprinthall, N., and Oja, S. (1998). *Educational Psychology. A Developmental Approach. Seventh Edition*. Boston, MA: McGraw Hill.

Stanton-Salazar, R. (1997). A social capital framework for understanding the socialization of racial minority children and youths. *Harvard Educational Review*, 67, 1-40.

Stedman, L. (1995). The new mythology about the status of United States' schools. *Educational Leadership*, 52, 80-85.

Steele, C. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist*, 52, 613-629.

Steinberg, L., Blinde, P., and Chan, K. (1984). Dropping out among language minority youth. *Review of Educational Research*, 54, 113-132.

Steinberg, L. (1996). *Beyond the Classroom: Why School Reform Has Failed and What Parents Need to Do.* New York: Simon & Shuster.

Steinberg, L., Dornbusch, S., and Brown, B. (1992). Ethnic differences in adolescent achievement: An ecological perspective. *American Psychologist*, 47, 723-729.

St. John, E. (1990). Price response in enrollment decisions: An analysis of the high school and beyond sophomore cohort. *Research in Higher Education*, 31, 161-172.

St. John, E. (1994). Prices, Productivity, and Investment: Assessing Financial Strategies in Higher Education. *ERIC Digest*. Available online. http://ericae.net/edo/ED382092.htm.

Swail, W.S. (1999). Do Pre-College Early Intervention Programs Work? Presentation at the West Coast College Board Forum, San Diego, CA, October 28.

Swisher, K., and Hoisch, M. (1992). Dropping out among American Indians and Alaska Natives: A review of studies. *Journal of American Indian Education*,31, 3-23.

Teranishi, R. (2000). African American college choice, post affirmative action: The role of information and perceptions of opportunity. Paper presented at ASHE 2000 Conference, Sacramento, California, November 17.

Thomas, R. (1998). Black and Latino college enrollment: Effects of background, high school preparation, family and peer influence, and financial aid. Paper presented at American Educational Research Association Conference, San Diego, California, April 13-17.

Tierney, W., and Jun, A. (1998). *Tracking School Success: Preparing Low-income Urban Youth for College*. Los Angeles, CA: Center for Higher Education Policy Analysis, University of Southern California.

Tinto, V. (1987). *Leaving College: Rethinking the Causes and Cures of Student Attrition.* Chicago: University of Chicago Press.

U.S. Department of Commerce, Bureau of the Census. (2000). Available online. http://www. Census.gov/population/www/estimates/popest. html.

U.S. Department of Education, National Center for Education Statistics. (1999). *The Condition of Education 1998.* Washington, DC: U.S. Government Printing Office.

U.S. Department of Education, National Center for Education Statistics. (1997a). *Dropout Rates in the United States, 1995.* Washington, DC: U.S. Government Printing Office.

U.S. Department of Education, National Center for Education Statistics. (1997b). *The Condition of Education 1996.* Washington, DC: U.S. Government Printing Office.

Walberg, H. (1993). Productive use of time. In *Timepiece: Extending and Enhancing Learning Time*, edited by L. Anderson and H. Walberg. Reston, VA: National Association of Secondary School Principals.

Weinstein, R. (1989). Perceptions of classroom processes and student motivation: Children's views of self-fulfilling prophecies. In *Research on Motivation in Education: Goals and Cognition's.* Vol. 3, edited by R. Ames and C. Ames. New York: Academic Press.

Wilds, D. (2000). *Minorities in Higher Education, 17th Annual Status Report.* Washington, DC: American Council on Education.

Wilds, D., and Wilson, R. (1998). *Minorities in Higher Education, 16th Annual Status Report.* Washington, DC: American Council on Education.

Willis, P. (1977). *Learning to Labor. How Working Class Kids Get Working Class Jobs.* New York: Columbia University Press.

APPENDIX A

Review of the Literature on Opportunities to Learn

REVIEW OF THE LITERATURE ON OPPORTUNITIES TO LEARN

Student Background Characteristics

Family Background

Family background characteristics have long been associated with students' educational achievement, and many studies have concluded that family background explains the largest portion of the variance in student achievement (Coleman et al., 1966; Jencks et al., 1972; Puma et al., 1997). While such factors as parental attitudes toward education, expectations, and involvement in their children's schooling certainly form an important part of the home environment (e.g., Puma et al., 1997), "family background," including family income and parent education level, is commonly operationalized as a composite variable. By looking at the income and educational backgrounds, a considerable amount can be inferred about their likely success in school. Table A-1 displays parental education and income for several ethnic groups. The students in this sample intend to go to 4-year colleges and thus are among the highest achievers in their respective ethnic groups.

Table A-1

Parental education and income of college-bound students, by race/ethnicity: 1999

Race/ethnicity	Number	Less than high school diploma	Some college	Income less than 20,000	Income more than 100,000
Black	114,912	5%	45%	27%	3%
Mexican	41,028	27	30	27	4
Puerto Rican	13,635	9	47	26	5
Native American	10,159	4	53	15	9
Asian	94,066	11	59	21	10
White	704,462	1	66	5	16

SOURCE: The College Board, 1999 SAT administration data.

Nearly all of the black, Native American, and white students in this college-going group have parents with high school diplomas. A relatively high percentage of these parents have at least some college education, with 45 percent for blacks being the lowest for the three groups. Notable, however, are the very low levels of parental education among the Mexicans in the sample—27 percent of parents do not have a high school diploma, and only 30 percent have some college, about half the percentage for either Asians or whites. Such low levels of education in the students' backgrounds suggests a significant need for both information and academic support to supplement parents' efforts to support students.

Figure A-1 shows the average SAT scores by parental income and race/ethnicity. Mean SAT scores for blacks students from *upper* income families (942 for more than $60,000) are lower than the mean SAT scores for whites from the *lower* income category (976 for less than $20,000); based on parents' education for one would expect these scores to be higher. Moreover, high-income Hispanics score only slightly higher than low-income white students (1,020 versus 976).

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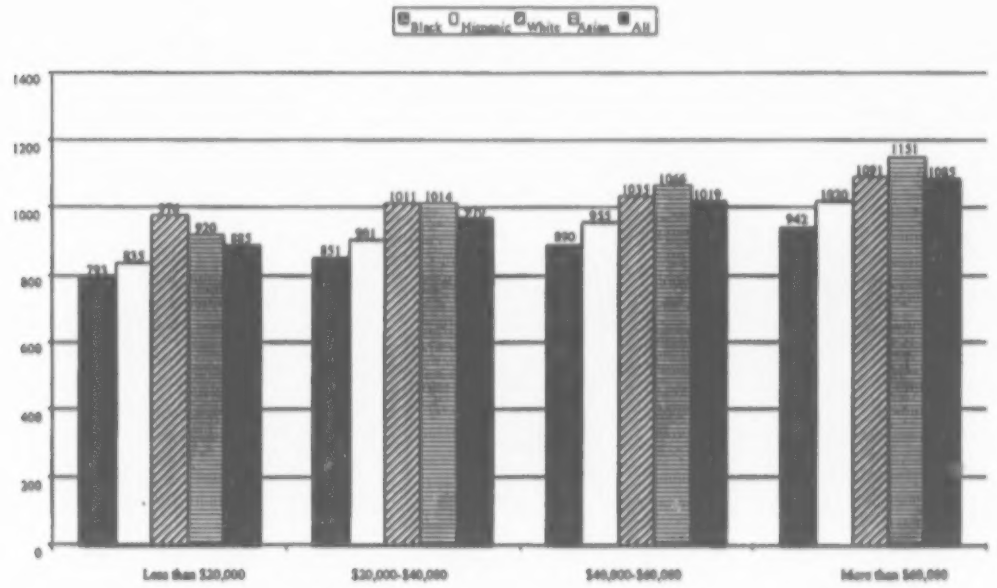
Figure A-1

Average SAT scores by parental income and race/ethnicity: 1999



SOURCE: College Board 1999 SAT administration data.

Miller (1995) hypothesized that the substantial variation in test scores and achievement for different ethnic groups within the same income and education categories is due to a type of cumulative educational disadvantage experienced by underrepresented minorities. According to this hypothesis, blacks and Hispanics (especially Mexicans and Puerto Ricans) are failing to adhere to the American prototype of intergenerational advancement because the *quality* of education that they receive, in both formal and informal settings, is consistently lower than that of more advantaged groups. Hence, according to Miller, parents with lower quality formal education, albeit with similar educational *attainment*, are less able to confer the educational advantages that other parents with the same level, but higher quality, education do for their children. Thus, it is likely that many black and Hispanic children do not receive the enriched educational experiences that should be commensurate with their parents' educational background. These students find themselves at a serious disadvantage in competing with students from other, better educated ethnic groups.

A number of studies have found that ethnic minority families have uniformly high aspirations for their children (Haro, Rodríguez, and Gonzales, 1994; Delgado-Gaitán, 1990; Steinberg, 1996); however, there is also a consensus in the literature that not all parents are equally endowed with the skills and resources to help their children realize these aspirations (Lareau, 1987; Steinberg, 1996). Low-income and minority parents often lack the *cultural capital*—knowledge of how the system works—and *social capital*—access to important social networks—that play such an important role for middle class white and Asian parents in supporting their children's academic achievement. Even among middle class parents from underrepresented communities of color, cultural capital may be in short supply. Often these families

represent the first generation in the middle class, and they do not have these middle class experiences in their own backgrounds to draw upon and replicate for their children. Attitudes, tastes, and dispositions develop over time and result from exposure to particular cultural experiences that are unique to class categories (DiMaggio, 1982).

Research has also converged on a particular parenting style that appears to be associated with higher achievement. Parents who are classified as "authoritative"—firm in their expectations yet warm in their relationships with their children, and who provide significant autonomy for their progeny—are most likely to have children who do well in school (Baumrind, 1989; Steinberg, 1996). Yet many blacks and Hispanics are accustomed to parenting in a more traditional, authoritarian style that has been adaptive to their own sociocultural circumstances; that is, higher risk urban environments may call for a different parenting style than lower risk suburban neighborhoods (Clark, 1983; Gándara, 1995). Such parenting styles, however, may not prepare students as effectively to compete in the classroom with their white peers (Steinberg, Dornbusch, and Brown, 1992).

Family residential mobility can also play a large role in the educational achievement of children. Both young children and adolescents are negatively affected by moves that result in school changes; young children are more likely to have school adjustment problems, and older children are more likely to drop out of school altogether (Rumberger and Larson, 1998). Unfortunately, family mobility is more common among poor children and immigrants, and thus they are affected disproportionately by these changes. Not all school changes are the result of family mobility, nor are they always bad. Sometimes children change schools to find a better fit, but that appears to be more common with white children than low-income minorities (Rumberger and Larson, 1998). In schools with high proportions of low-income and minority youth in particular, multiple school changes can be the result of school practices that "get rid of" students who are perceived to be problems (Fine, 1991). Multiple school changes are more common among, and generally have a more negative impact on school achievement for, such youngsters (Rumberger and Larson, 1998).

At the point when students begin to consider their postsecondary options—whether to go to college or not, and if so, to what kind of college—the experience, knowledge, resources, and expectations of parents play a significant role in the kinds of choices that students make. Students with equal ability make very different decisions about their postsecondary education based on the guidance—or lack of it—that they receive from home. Unfortunately, low-income and underrepresented students tend to set their sights lower than white students with comparable academic records, due in large part to their parents' lack of understanding of the postsecondary education system (McDonough, 1997).

Community Characteristics

There is considerable debate in the literature about the relative effects of neighborhood type, as distinct from family or peer influence, on student achievement. Two theoretical models can help to explain how neighborhoods can affect the development of youth in ways that in turn have an impact on their schooling outcomes. Neighborhood Resource Theory postulates that the quality of local resources available to families (e.g., parks, libraries, child care facilities) affects child developmental outcomes. Because poor children live in neighborhoods with fewer supportive resources, they receive less exposure to developmentally enriching activities (Brooks-Gunn, Denner, and Klebanov, 1995). Even when such resources are available, a family's access to them is still mediated by the skills (cultural capital) of the parents. More educated, well-informed parents are more likely to access whatever resources exist. Thus, methodologically, there are difficulties in separating the effects of neighborhoods from the effects of parenting.

Collective Socialization Theory argues that more affluent neighborhoods generally provide more successful role models and stronger normative support for the kinds of behaviors that are associated with school success (Jarret, 1997). Middle-income students are more likely to encounter both adults and peers in their communities who are supportive of high educational goals and can even assist young people in achieving them. This theory, like Neighborhood Resource Theory, is also plagued by methodological problems that make it difficult to assess the independent effects of neighborhoods. For example, Darling and Steinberg (1997) note that it is difficult to separate the influence of peers in these neighborhoods from the effects of the neighborhoods themselves. Thus, neighborhood effects can be confounded with peer influence. Nonetheless, Jessor (1993) has argued strongly for the importance of considering the total ecological context in which a child is raised—families, schools, and communities—as influences on development, and a recent report by the National Academy of Sciences on the problems of adolescence points out that too much emphasis has been placed on high-risk youth, and not enough on the high-risk settings in which they live and go to school (National Research Council, Panel on High Risk Youth, 1993).

Notwithstanding the significant impediments most poor families face in moving out of high-risk areas, choosing neighborhoods is one way that even low-income parents sometimes have an impact on their children's academic achievement (Jarret, 1997). In a study of high-achieving Chicanos from low-income backgrounds, Gándara (1995) found that many parents made conscious choices to live in parts of town that afforded access to a better school or fewer problems of delinquency, in spite of their limited resources. Sometimes by choosing to live on the borders or "frontiers" of barrios or low-income communities, families can provide access to resources that lie just beyond those borders (Grebler, Moore, and Guzmán, 1970; Gándara, 1995).

Peer Influences on Student Achievement

Adolescent peer groups are commonly portrayed as having a negative influence on the values and behavior of youth. Drug and alcohol use, gang membership, and a culture of underachievement are popularly viewed as risks that are associated with peer influence, and with good reason since such risky behaviors have been shown to occur in peer clusters (Henderson, 1997). Peers can, however, also have a positive influence on each other. They can support academic goals and serve as important sources of information for upward mobility (Stanton-Salazar, 1997). Adolescents who join friendship groups whose academic achievement is higher than their own tend to raise their achievement to match the level of their peers. Of course, students who hang out with low-performing friends tend to perform at lower levels as well, and those whose friends are dropouts are at higher risk for dropping out themselves (Epstein and Karweit, 1983).

Among ethnic minority students from underrepresented groups, however, the issue of academic achievement can be complex. Steinberg (1996) reported that one in five adolescents says that his or her friends make fun of students who do well in school, and this is particularly true for black and Hispanic students. Many black and Hispanic students who aspire to high achievement reported being accused of "acting white" (Fordham and Ogbu, 1986) and thus being shunned by their lower performing peers, who may be the arbiters of social acceptability in their schools. Because adolescents are confronting the difficult (and self-absorbing) task of establishing a personal identity and forging a place within their social order, peer acceptance is exceptionally important for their healthy development. Thus, it is not difficult to understand why many students succumb to the admonitions of their friends to put aside the school books and not be a "nerd" or a "school boy" or "school girl."

Mehan et al. (1996) and Gándara et al. (1998) have both reported on programs that appear to effectively foster peer groups that support students' high aspirations, thus allowing students to be both

high achievers and proud of their ethnic heritage. These peer networks can serve multiple purposes—support for ethnic identity, sources of information, and entree into a supportive peer network. Both studies, however, caution that such groups only thrive in the context of supportive schooling structures that provide both time and space for these relationships to flourish.

Social Structural Influences on Minority Student Achievement

Miller (1995) cited data suggesting that racism, or prejudice, is indeed one factor in the lower performance of some students of color. James Kleugel (cited in Miller, 1995) analyzed General Social Survey data to determine the trends in whites' attitudes toward black disadvantage and concluded that despite a drop from 27 percent in 1977 to 21 percent in 1989 in the belief that blacks are intellectually inferior, a still-significant portion of the white population subscribed to such a belief. More recent data from National Opinion Research Center (NORC) surveys on racial attitudes suggest that whites' belief in black inferiority has continued to drop. In 1996, only 10 percent of respondents would agree that this was a factor in black disadvantage. However, what appears to be a positive trend is nonetheless problematic because the belief that black disadvantage stems from discrimination has also fallen sharply.

In the same survey, the single most common response to the question of why blacks continue to suffer disadvantages (52 percent) was that they lack the motivation to succeed (Schuman et al., 1997). These beliefs have implications for the ways in which whites are willing to address the problem. For example, Schuman et al. (1997) note that while whites overwhelmingly support the *principle* of equality (depending on the particular question, responses affirming this principle approach 100 percent), they are increasingly disinclined to support the *implementation* of measures that would facilitate it. Researchers find declining support for methods to desegregate schools and for policies such as affirmative action (Kunen, 1996; Morantz, 1996; Schuman et al., 1997). Miller (1995) concludes that "[T]hese views—which include notions of the innate intellectual inferiority of blacks and the cultural inferiority of African Americans and Latinos—seem to be associated with a lack of interest in or opposition to the addressing of critical economic, health, and educational needs of urban minorities" (pp. 241-2).

Societal beliefs about the intellectual or cultural inferiority of certain groups can result in constrained choices as well as constrained opportunities. Claude Steele (1997) has advanced the theory of stereotype vulnerability to explain why many blacks, as well as other minorities, may perform poorly or choose not to participate at all in academic endeavors in which they run the risk of confirming the stereotype that they are intellectually inferior. He contended that the pervasive societal belief in the inferiority of some groups weighs heavily on these individuals when they are confronted with tasks that could support this stereotype.

Through a series of novel experiments in which he manipulated subjects' perceptions of testing conditions and consequences, Steele demonstrated that black students (and sometimes women) may *disidentify* (that is, plead lack of interest) with academic goals because of the performance anxiety that is produced by having to compete academically in settings where any mistake can be seen as an affirmation of the notion that they are intellectually inferior. Steele argues that such disidentification can lead to disengagement from academic endeavors as well as depressed performance on tests. Support for Steele's theory is also found in the ethnographic studies of Willis (1977) and McLeod (1987). In their studies, both black and white disaffected, low-income youth rejected the social norms of the society that they perceived as having rejected them. In assuming the very stereotypes that the society imposed upon them, they thus inadvertently cooperated in reducing their own limited opportunities.

There can be little doubt that all of the foregoing background factors contribute significantly to the lower achievement of underrepresented students. However, opportunity to learn is still

fundamentally the responsibility of schools, and many school practices function to reduce the opportunity to learn for many underrepresented students.

The Influence of Schools on Student Achievement

Quality of School

The particular school that a student attends has a significant impact on student achievement. Research has shown, for example, that learning environments and resources differ markedly between high-poverty and low-poverty schools. Teachers in high-poverty schools are more likely to report problems of student misbehavior, absenteeism, and lack of parental involvement than teachers in low-poverty schools; teachers' salaries and advanced training are also lower in high-poverty schools than in low-poverty schools (Darling-Hammond and Green, 1994; U.S. Department of Education, 1999). Schools in more affluent neighborhoods have also been shown to provide more rigorous college preparatory and honors courses than schools in lower income communities that largely serve populations of underrepresented students (Orfield, 1996; Chávez and Serna, 1999).

Quality of Teachers

Not only are schools in more affluent areas better organized to provide more rigorous curricula, they also tend to have stronger teachers (Haycock, 1998; Ferguson, 1998). However, Haycock (1998) reviewed data that show children of color, regardless of their socioeconomic level, are more likely to be taught by teachers with lower test scores and less academic preparation than white children. And the quality of the teacher, measured by certification, quality of institution from which the teacher received his or her degree, and test scores, has been shown in a number of studies to have a significant impact on student performance. Ferguson (1998) reviewed data from Texas in the 1980s and found that teachers with higher scores on the Texas teachers' test were more likely to produce significant gains in student achievement than their lower scoring counterparts. Goldhaber and Brewer (1996), in an analysis of NELS:88 data, showed a positive relationship between teachers' degrees in technical areas (math and science) and students' achievement. Hanushek (1994) also concluded, in spite of a general reluctance to concede that a greater investment of resources in schooling is likely to produce higher achievement, that the quality of the teacher is a major factor in increasing student test scores.

Some research also suggests that high scoring black or Hispanic teachers may be more effective with black and Hispanic children than high scoring white teachers (Ferguson, 1998). Delpit (1995) provided an explanation for this idea in her analyses of how progressive white teachers may differ in their pedagogy from black teachers, who have greater familiarity with black children's backgrounds and experiences. She discovered that white teachers may make assumptions about these children's learning styles and prior knowledge that are unfounded and thus lead to inappropriate instructional methods. Teachers' expectations of children's abilities can also affect their school performance.

Expectations and Encouragement for High Aspirations

Stereotypes and societal expectations for children of color (and low-income students) often differ from those held for other young people. Teachers are not exempt from these biases. Teachers can be very effective in sending nonverbal messages to students about the amount of confidence they have in the students' abilities. For example, not only do teachers call on favorite students more often, they wait

longer for an answer from students they believe know the answer than from those in whom they have little confidence. With the latter, teachers are more likely to provide the correct answer or to move quickly to other students (Brophy and Good, 1974). Students have also been shown to be very sensitive to these subtle teacher behaviors and to "read" their teachers' attitudes quite accurately (Weinstein, 1989). In a series of studies conducted by the psychologist Robert Rosenthal, teachers' attitudes toward their students were shown to have a substantial impact on their academic performance. Thus, Sprinthall, Sprinthall, and Oja (1998) concluded that "the Rosenthal effect is three-fold: (1) Pupils who are expected to do well tend to show gains; (2) pupils who are not expected to do well tend to do less well than the first group; and (3) pupils who make gains despite expectations to the contrary are regarded negatively by the teacher" (p. 408). In this way, students' assessment of their abilities can be moderated by teachers' attitudes and beliefs.

Rosenholtz and Simpson (1984) have also demonstrated that teachers' organization of their classrooms—either unidimensionally in which students' performance is evaluated very narrowly by focusing on specific academic skills, or more multidimensionally, in which assessment incorporates a broader range of skills—can mediate students' evaluation of their peers' ability. Because peer evaluation has such a powerful effect on students' own self-conceptions of ability, teachers can play a pivotal role in students' view of their own ability by manipulating organizational features of their classrooms. Through direct evaluation, as well as indirectly by mediating the impact of peer evaluation, teachers can affect the aspirations and the expectations that students hold for themselves.

Students' own aspirations are also influenced greatly by those of the important persons, including teachers, peers, and family members, in their environment. When students are surveyed with a one-time question asking what they want to do or hope to do after high school, researchers find that students respond with uniformly high aspirations to attend college across all ethnic groups (although in research comparing approximately 2,000 California high school students by ethnic background, Gándara et al. (1998) found consistently lower aspirations for Latino students than all others). Even though they do report high aspirations, underrepresented students more frequently fail to meet their goals (U.S. Department of Education, 1999). Thus, aspirations alone are not very good predictors of who will go on to, and complete, college.

Adelman (1999) argued, however, that if aspirations are defined as what a student is *planning to do* after high school, and if their responses are consistent over time, aspirations have much greater predictive power. High aspirations, though, are almost certainly the product of high expectations and encouragement on the part of parents, teachers, and counselors. There is abundant evidence that teachers and counselors in low-income and heavily minority schools tend to have lower expectations for their students than teachers and counselors in more affluent schools (McDonough, 1997; Haycock, 1998). And while many low-income parents hold high aspirations for their children, their actual *expectations* for what their children are *likely* to do are often considerably lower (Henderson, 1997). Aspirations are clearly important in helping to put students on the path to higher education, but responses to surveys about students' aspirations often mask as much as they reveal about young people's true intentions, which are likely to reflect those of the important adults in their environment.

Grading systems also differ considerably between low-income, minority schools and more affluent, suburban schools. Top grades represent very different levels of accomplishment between the two educational environments (Carnavale, Haghighat, and Kimmel, 1998). Even so, grade point averages in the courses that underrepresented students take are uniformly lower than for white or Asian students, and thus suggest that these students are less well prepared by their schools to enter college than other students. Table A-2 reports GPAs for students from six major ethnic groups who took the SAT exams in 1999.

Table A-2

National grade point averages of students taking the 1999 SAT, by race/ethnicity

Race/ethnicity	GPA
White	3.32
Asian	3.41
Mexican	3.18
Native American	3.09
Black	2.90

SOURCE: College Board 1998 SAT administration data.

Unfortunately, the relatively lower classroom performance of underrepresented minority students is mirrored in their standardized test scores. Regardless of the debate—and it is a heated one—about the validity of such scores for students from nonmajority backgrounds, the tests do measure, in part, students' exposure to middle class culture and high-quality educational experiences, and they do continue to be used widely in the evaluation of students for selective colleges and universities. Therefore their importance cannot be ignored. Table A-3 displays the range of scores among six ethnic groups on the SAT.

Table A-3

National scores of students taking the 1999 SAT, by race/ethnicity

Race/ethnicity	Number	Verbal: All students	Math: All students	Percent scoring 500+Verbal	Percent scoring 500+ Math
Black	116,144	433	421	25	21
Mexican	42,750	452	456	32	33
Puerto Rican	13,897	455	448	33	30
Native American	8,118	484	481	45	43
Asian	85,128	497	552	50	66
White	705,019	527	528	61	61

SOURCE: The College Board, 1999 SAT administration data.

The effects of differential schooling experiences begin early in the educational careers of students. Barr and Dreeben (1983) have shown how, in spite of the best intentions of teachers, the boundaries between reading groups formed early in the first grade become impermeable barriers to upward advancement in reading groups thereafter. Students have a strong tendency to stay where they are initially placed. The students who come to school with readiness to read—usually those from homes that have encouraged early literacy—tend to maintain their advantage over time. Teachers' early judgments at the beginning of schooling, more often than not, presage the educational path of students for the balance of their K-12 years. Once students enter middle school, the math courses to which they are assigned will largely determine their academic track in high school and their likelihood of being prepared to attend college (Adelman, 1999; Oakes, 1985). If they have not been assigned to algebra by ninth grade, they are unlikely to be competitive for a 4-year university. Moreover, they are also probably being "low-tracked"

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depth of content, and quality of instruction (Oakes, 1985; Slavin and Braddock III, 1994). Findings from this tracking research convinced the College Board to launch a major initiative entitled Equity 2000 whose purpose was to help cooperating schools enroll all students in algebra by the ninth grade, thus eliminating one of the major barriers to gaining a college education.

Segregation

Racial and ethnic segregation continue to have an impact on school performance for underrepresented students. Inequalities in educational opportunity between segregated white schools and segregated schools with students of color have been well-documented (Orfield and Eaton, 1996) and served as the catalyst for a decades-long experiment with desegregation and busing. That experiment has largely come to an end during the latter half of the 1990s. Today, both black and Hispanic students attend increasingly segregated schools. The percentage of black students in 90 to 100 percent minority schools grew from 33.9 percent in 1992 to 35 percent in 1997. Hispanic segregation has been increasing since data were first collected in the 1960s, and in 1997, 35.4 percent of Hispanic students were attending schools that were 90 to 100 percent minority (Orfield and Yun, 1999). And, as Orfield (1996) points out:

> Low-income and minority students are concentrated in schools within metropolitan areas that tend to offer different and inferior courses and levels of competition, creating a situation where the most disadvantaged students receive the least effective preparation for college. A fundamental reason is that schools do not provide a fixed high school curriculum taught at a common depth and pace. The actual working curriculum of a high school is the result of the ability of teachers, the quality of counseling, and enrollment patterns of students (p. 67).

Eaton and Meldrum (1996) reviewed the case of Norfolk, Virginia, which in 1996 was the first district to be allowed by the federal courts to dismantle its desegregation plan. Whereas the court had been convinced that returning to a neighborhood school policy would increase parent participation, reduce white flight (and even encourage white families to move back into Norfolk), and allow for funds to be shifted from transportation costs to strengthening the schools—and therefore the achievement of all children—outcomes have not been as anticipated. Segregation has become more acute since the busing program was dismantled, and both parent participation in PTA meetings and black students' test scores have dropped.

Quality of High School Counseling

High school counseling represents a problem of both quantity and quality. Over the last couple of decades, as school budgets have been stretched thin, particularly in some high-growth states like California, school counselors have been the target of budget cuts. For example, the average high school counselor in California serves almost 450 students (California Department of Education, 1999), and an abundance of literature on high school counseling points to the fact that most public school students rarely, if ever, see their counselors, and when they do, it is usually for the purpose of routine scheduling of courses (Hutchinson and Reagan, 1989). Many low-income and underrepresented students see their counselors not as allies, or sources of support, but as gatekeepers who all too often refuse them admission to the courses that would prepare them for college (Oakes, 1985; Gándara, 1995). These decisions are commonly attributed to students' having low test scores or being ill-equipped to take on the

challenges of more rigorous coursework (Oakes, 1985; Romo and Falbo, 1996). Once tracked into the slower reading group—or lower math group—it is difficult, if not impossible, for students to ever compete with their peers who have become proficient in material to which the low-tracked students have never even been exposed.

Like other resources in schools, however, the quality and quantity of counselors available to students differs greatly by income level and education of parents. McDonough (1997) has shown how the counseling support provided in middle class schools operates to achieve quite different outcomes than for students in lower income schools—even when students present themselves with nearly identical qualifications. In the lower income school, aspirations are also often lower, and students are channeled into less prestigious institutions than those for which they may qualify. A student with similar academic preparation in a middle class school is much more likely to be urged to reach for more selective schools—and helped to do so (McDonough, 1997).

A relatively new feature on the educational landscape is the mushrooming business of private, for-hire college counseling. Parents with sufficient means have increasingly been paying for counseling services outside the schools. These private counselors can increase a student's chances of being selected into competitive colleges by advising on effective application strategies, as well as increase the chances of even mediocre students finding colleges that meet their needs (McDonough, Korn, and Yamasaki, 1997; Douglas, 1989). Low-income and minority students are less likely to be able to avail themselves of these services.

Dropping Out of School

Dropout rates for underrepresented students are much higher than for white and Asian students, and this is especially true for Hispanics. The National Center for Education Statistics (NCES) reports that the high school dropout rate in 1995 was 8.6 percent for white students, but 12.1 percent for black students, and 30 percent for Hispanics in the 16- to 24-year-old age cohort (U.S. Department of Education, 1997a). The Native American dropout rate appears to be about 30 percent as well, although these data are estimates and accurate counts for this population are difficult to obtain (Swisher and Hoisch, 1992).

Social and academic integration into school are two factors that have been consistently associated with persistence in both high school and college. Students who are active in extracurricular activities and who have meaningful relationships with both other students and faculty are less likely to drop out of school than students who do not participate in such activities or have such relationships (Mahoney and Cairns, 1997). This is probably one reason why mobility has such negative effects on student persistence: it is difficult for many students to reestablish relationships and group affiliations in each new school to which they are assigned. Adolescents, in particular, are notoriously peer-oriented, and it can be difficult for a new student to enter into already-established friendship groups.

Fine (1991), however, has questioned to what extent low-income and underrepresented minority students actually *choose* to drop out of school and to what extent this is a choice made for them—either by a system that is anxious to be rid of them, or by school personnel who are so indifferent to their needs that some students find little point and few, if any, rewards in staying. There is both a push and pull effect in the phenomenon of exiting school before graduation. Schools push some students out. Pull factors also contribute to disengagement from school. One significant pull factor is primary friendships outside of school, particularly when these friends are school dropouts; students with significant friendships with peers who have left school are more likely to leave school themselves (Epstein and Karweit, 1983; Rumberger, 1981). Another pull factor is employment that intrudes on both

time to study and to attend classes. Students who are employed more than 20 hours per week are at high risk for having lower grades and less engagement with school, which in turn increases their risk of dropping out of school (Steinberg, 1996).

Financial Constraints

Even if underrepresented students had no other impediments to accessing higher education, financial constraints would continue to be a major factor in their postsecondary choices. While there is some debate over the role of financial constraints as a major factor in students leaving college (Tinto, 1987), there is little debate that it is critical in deciding whether or not a young person will go to college at all (Adelman, 1999; Cabrera, Stempen, and Hansen, 1992). Low-income students are significantly less likely to attend college than upper income students, even when their test scores are similar. Akerhielm et al. (1998) found that within the top test score group of the NELS:88 achievement test, 75 percent of low-income, 86 percent of middle-income, and 95 percent of high-income students went on to college. Stated differently, one out of every four high school graduates scoring at the top of their class, but coming from a low-income family, did *not* go to college.

The cost of a college education encompasses more than the cost of tuition for young people from low-income families. Potential students must also weigh heavily the costs of unearned income, and the reality that they will not be able to help their families financially while they are in college. Even if college costs are covered by grants and/or loans, it can be a difficult decision for some low-income youth to give up helping their families at an age when they can be productive wage earners. In a study of high achieving, low-income Chicano students, Gándara (1995) found that it was relatively common for older siblings to forgo college in favor of work so that younger siblings might have the opportunity to study as family finances were augmented by the incomes of the older siblings.

Some students, and their families, may take themselves out of the running for higher education based on perceptions that do not fit reality. For example, research shows that many students are unclear about the costs of a college education and about the options that exist for paying college tuition (Akerhielm et al., 1998). "Sticker shock" has been shown to scare off some low-income students who lack adequate information about grants and loans that can make college possible, or who fear going into debt for school because it is perceived as too burdensome on the family (Gándara et al., 1998; Teranishi, 2000). Moreover, students tend to overestimate the costs of college, imagining an even greater barrier than actually exists (King, 1996). That is, more low-income students can be expected to enroll in college if it does not require that they burden themselves and their families with debt in order to do so (St. John, 1990; 1994).

The average cost of attending college has increased substantially. For example, at public colleges and universities tuition and fees have risen by 114 percent and 113 percent (in current dollars), respectively, in the decade from 1988-89 to 1998-99. During the same period, however, aid for full-time-equivalent students rose 68 percent, and the maximum Pell grant award, considered the foundation of the federal student aid program, lost 15 percent of its purchasing power (College Board, 1999a). Financial aid, in the form of grants, has failed to keep up with rising college costs. The decreasing real-dollar benefits of Pell grants, and the increasing shift from grants to loans, has served to make the financing of higher education more and more difficult for low-income minority families (College Board, 1999a). For many students, this means that they either opt out of college altogether or restrict their choices to local state or community colleges (Gándara et al., 1998; Teranishi, 2000; Thomas, 1998). While the latter strategy would appear to be better than the former, data show consistently that the less selective the institution a student attends, the lower is the probability that the student will complete a bachelor's degree (U.S. Department of Education, 1999).

APPENDIX B

List of Programs for Which Information Was Submitted

State	Program	Program Source	Evaluation*
AK	Arkansas Academic Challenge Governor's Scholars Program	State initiative	No
AL	BioPrep**		
CA	Early Academic Outreach Program	University of CA	No
	Monterey Bay Education Consortium (MBEC)	Multiple	No
	Minorities in Engineering & Sciences (MESA)	U of CA/CSU	No
	Neighborhood Academic Initiative (NAI)	U of Southern CA	Yes
	AISES		No
	Advancement Via Individual Determination (AVID)	SD County schools	Yes
	Step to College and Mission to College	San Francisco St. U	No
	Project Step	University of CA	No
	Puente Project	University of CA	Yes
	College Pathways**	Foundation	
	College Kids	Foundation	No
CT	Minority Achievement Program (MAP)	State initiative	No
	Collegiate Awareness Preparation (CONCAP)	CT Public schools	No
	Minority Enrollment Incentive Program (MEIP)		No
	CT College Access and Success (CONCAS)		No
	College Admission and Bridge Program (COMCAB)	No	
	Minority Staff Development & Recruitment Program	No	
FED	Upward Bound/TRIO		Yes
	Student Support Services /TRIO		No
	Talent Search/TRIO		No
	Gear Up		No
FL	College Reach Out Program (CROP)	State initiative	Yes
IL	College Futures Program	State initiative	No
	Parkland College Program	State initiative	No
	Expanding Cultural Diversity Project	State initiative	No
	Transfer Centers (27)	State initiative	No
	Early Outreach Program**	University of IL	
	King-Chávez-Parks		Yes
IN	Indiana Career and Postsecondary Advancement Program (ICPAP)	State initiative	Yes
	21st Century Scholars Program	State initiative	No
KY	Governor's Minority Student College Preparation Program	State initiative	No

State	Program	Program Source	Evaluation*
LA	Stress on Analytical Reasoning (SOAR)	Xavier University	No
MA	Transitional Year Program	Brandeis U	No
	The Education Resources Institute (TERI):		
	Kids to College (K2C)		No
	A Better Chance	Foundation	Yes
MD	Baltimore College Bound Program		No
MI	A+ Schools Program	State initiative	No
	Detroit Area Pre-college Engineering (DAPCEP)		No
MN	Postsecondary Enrollment Options Program (PEOP)	State initiative	Yes
MO	Health Careers Opportunity Program	University of MO	No
	INPSYCH	University of MO	No
	MORE Energy Camp	University of MO	No
	STEP Bridge	University of MO	No
	Expanding Your Horizons	University of MO	No
	Engineering Minority Program	University of MO	No
	American Indian Research Opportunities	University of MO	No
	Montana Apprenticeship Program	University of MO	No
	Minority Intellectual Network	University of MO	No
	Science and Engineering for All:		
	Opening the Door for Rural Women	University of MO	No
	Educational Talent Search	State initiative	No
	Tribal College/High Plains	Rural System Initiative	No
NJ	New Jersey College Bound Program	State initiative	Yes
NY	Goodard Riverside Community Center		No
	OPTIONS Center for Educational and		
	Career Choice		No
	Readiness Program	Settlement College	No
	I Have a Dream (and national)	Foundation	Yes
	Prep for Prep	Foundation	No
	The Posse Program	Foundation	Yes
	College Now**	Kingsborough Com Coll	
OK	Oklahoma Higher Learning Access Program		
	(OHLAP)	State initiative	Yes
PA	Quantum Opportunities Program		No

State	Program	Program Source	Evaluation*
RI	Access to Opportunity	Comm Coll of RI	No
	Advanced Training for Empowerment & Self-esteem (AT EAST)	URI/CCE	No
	Gateway Program	URI/CCE	No
	The College Readiness Program	URI	No
	Guaranteed Admission Program	URI	No
	Project Discovery	URI	No
	Special Programs for Talent Development	URI	No
	Getting to College	Public Education Fund	No
	Kids Health Career Alliance	Public Education Fund	No
	Learning Enhancement for Adults Program (LEAP)	URI/Foundation	No
	Pre-college Enrichment Program	Brown University	No
	Preparatory Enrollment Program (PEP)	RI College	No
	Literacy Initiative for Newport Kids (LINK)	Salve Regina College	No
	Providence Summer Bridge		No
	RI Children's Crusade for Higher Education		No
	RI Educational Enrichment Program (RIEEP)		No
	RI Educational Opportunity Center (RIEOC)		No
	RI Educational Talent Search		No
	SPHERE	Comm Coll of RI	No
	Times^2 (Times Squared)		No
TX	Academic Excellence Awards	University of Texas	No
	Gateway Program	University of Texas	No
	TexPrep Engineering Program	University of Texas	No
	ACT/PLAN/EXPLORE	University of Texas	No
	Supplemental Instruction	University of Texas	No
	Maverick Scholars Program	UT Arlington	No
	Project GRAD	Public Schls/Foundtn	Yes
VA	Better Information Project	State initiative	No
	Early Identification Program (EIP)	George Mason U	Reviewed
WI	Wisconsin Educational Opportunity Programs	State initiative	Yes
	Early Identification Program (EIP)	State initiative	No
	Minority Pre-college Program	State initiative	No
	Preschool to Grade 5 (P-5)	State initiative	No
Multiple States: General Electric College Bound		Business sponsor	Yes

* A "yes" in this column means that the program produced an evaluation that met the authors' criteria for minimal rigor; an assessment of student outcomes through use of systematic controls or comparison groups and/or data collected on individual students that yielded insight into the program's effects. A "no" does necessarily mean that no such evaluation has been conducted, only that it was not made available to us.

** These programs had been reviewed by other researchers; while their reviews were generally informative, they fell short of being actual evaluations.

APPENDIX C

Brief Descriptions of Programs

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
The Posse Program (1989)	NY	Foundation support, private contributions, university partners, some federal funding	• Alternative recruitment strategy • 34-week pre-college training program • Team/posse • Scholarship • Mentor • On-campus program • Faculty involvement • Charge/mission	High school seniors of diverse backgrounds from New York City public schools	• To broaden the applicant pool considered by elite colleges and universities; get more students from diverse backgrounds into top institutions of higher education. • To help these institutions work on creating a more diverse campus environment. • To graduate more students from diverse backgrounds from selective colleges and universities so they can take on leadership positions in the workforce.	Dr. Carol Bonilla Bowman and Dr. Edmund Gordon; Conno-seurial Evalua-tion, 1997-98	The Posse Program was created as a response to the many talented students from city high schools who went to college only to drop out months later. When one student said, "if I had my posse with me I never would have dropped out," The Posse Program was born. 175 students, in teams of 10, have been placed into 6 partner institutions: Brandeis, DePauw, Lehigh, Middlebury, Rice, and Vanderbilt. These institutions have awarded Posse scholars almost $14 million in leadership scholarships. Students are recruited from public schools. Students participate in a 34-week training curriculum, which focuses on leadership development, academic enrichment, and cross-cultural communications. Students work with a graduate student mentor once on campus. The Posse Program is one effort to help universities work on issues of diversity despite the nation's backlash to affirmative action.

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A Better Chance (ABC) (1963)	NY	Corporate, foundation, and private donations	• Recruitment strategy that identifies, screens, evaluates, and refers students to schools • Assistance to schools in additional minority recruitment efforts • Works directly with students to help during transition period • "Motivates" students [unclear] • Exposes students to "appropriate opportunities" • Advocacy • Volunteer recruiters	Minority students just about to enter high school.	• "Provide educational opportunities to minority students with the talent and potential to excel..." • "Provide assistance and guidance to these schools, students and their families to ensure the best possible learning and socialization experiences..." • "To provide direct academic and career development assistance to students... and to generate opportunities and support for development of these students in the corporate and pubic sectors."	1983 survey of alumni of A Better Chance: Sylvia T. John – Principal Investigator (submitted to the Ford Foundation), Internal Program Review, 1990; several published articles written by current president	National program that finds talented minority students – mostly from inner city neighborhoods – and places them at highly selective preparatory schools. Volunteer recruiters scout minority neighborhoods to find students who have talent and potential for academic excellence. [note: the described recruitment and assessment strategy in the literature is not "alternative" but quite standard – including SATs and school academic performance although ABC claims to use "alternative" measures.] Students are selected right before they enter high school. While most are placed in private prep schools, some go to selected public schools. The latter often stay in "ABC Houses" where 6-10 ABC students live while attending the high school.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Detroit Area Pre-College Engineering Program (DAPCEP) (1976)	MI	Annual corporate gifts, government support, in-kind support from Detroit public schools, Detroit Urban Systemic Initiative: NSF subgrant, Black United Fund/Combined Federated Campaign: contributions from federal employees Also establishing an endowment fund. $3.6 million budget funded by local, state, and federal sources, and 21 local corps.	• In-school classes • Saturday and summer "enrichment" programs • Teacher training • Partnerships with corporations, government and educational leaders • Active parent group	Black, Hispanic, and Native American middle and high school students who are academically prepared and motivated	• To increase the numbers of black, Hispanic, and Native American middle school and high school students who are "motivated and academically prepared to pursue careers in the science, engineering, and mathematics-related fields"	Student Tracking Report: summary of findings 1976-1996; annual report	DAPCEP reaches over 5,000 students in grades 5-12, involving them in engineering and science enrichment programs. DAPCEP also serves over 500 students in grades 6-12 and almost 3,000 students with its Saturday program (grades 5-12). DAPCAP serves 2,000 students in grades 7-12. "Community partnerships with local corporations, universities, and the Detroit Public Schools provide diverse programming." A parent advisory committee offers seminars, scholarships to college, and open houses, and sponsors a Teen Club.

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Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Oklahoma Higher Learning Access Program (OHLAP) (1992)	OK	Oklahoma State Legislature Fund	• Scholarships • Scholarship information dissemination program ◦ Requirements of applicants include good school attendance, good GPA, no substance abuse, no involvement in crime or delinquent acts	9th and 10th grade students who could do well in college but whose families' yearly income is $24,000 or less	• To ensure that students who meet the criteria are provided with financial assistance to help relieve the burden of paying for college	1997-98 Year-End Report	State legislation passed in July 1992 established a fund to help students with financial need attend college. Attached to the application for financial assistance are requirements to stay away from trouble (drugs and crime) and to pursue academic success in school.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
College Reach-Out Program (1992)	FL	Provided by the General Appropria-tions Act An annual allocation to the Postsecondary Education Planning Commission, which provides an annual program evaluation, is required	◦ Recruits students • Provides "academic enrichment activities" ◦ Career counseling • Personal counseling [uses tutors, teachers, and counselors] ◦ "Competitive award program giving preference to consortia involving two or more colleges and universities, projects that secure matching grant funds..." ◦ Coordinated efforts between colleges and schools ◦ Parental involvement	Low-income educationally disadvantaged students in grades 6-12 Seeks students who would not have considered admission to community college, state university, or independent institutions of higher education "without special support and recruitment efforts"	• "To increase the number of low-income educationally disadvantaged students in grades 6-12 who, upon high school graduation, are admitted to and successfully complete post-secondary education"	Statewide Evaluation of Florida's College Reach-Out Program Annual Report: 1995-96 Cohort	CROP is a program designed to provide support to students who normally would not have considered college. CROP tries to "strengthen the educational motivation and preparation of low-income and educationally disadvantaged students" from middle and high schools. Students are recruited into the program, which offers academic, career, and personal "enrichment" activities. Partnerships between colleges and schools are encouraged, but individual institutions can apply for project funding.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
I Have A Dream (1981)	NY based, but nation-wide network of projects	Individual sponsors must initiate each program; some obtain foundation, corporate, governmental, and community donations.	• Sponsor-mentors • Adopted class or group of students (between 50 and 100) • Promised financial aid for college • Personal, year-round support from elementary school through high school • "Social intervention" programs • Cultural and arts education • Advocacy and policy work "aimed at reversing the trend of losing youth to our troubled streets" • College and university partnerships with IHAD (e.g., summer camps) • Corporate partnerships (e.g., internships)	Usually 8- to 9-year-old children in elementary school in public housing developments	• To help sponsored students achieve their "dreams" and become productive citizens • "It is IHAD's goal that every Dreamer graduate from high school functionally literate and prepared either for further education or for fulfilling employment."	"The Role of Social Capital in Youth Development: The Case of 'I Have A Dream,'" Joseph Kahne and Kim Bailey; "Beating the Odds: How the Poor Get to College," Arthur Levine and Jana Nidiffer; Newsclips	Provides long-term financial, academic, and social support beginning in 6th grade to enhance high school graduation rates and encourage attendance and completion of college. There are 160 IHAD projects in 57 cities.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
TexPrep: Texas PreCollege Engineering Program (1979)	TX	In-kind "manpower" from various public and private sector agencies and institutions: local, state, and national colleges and universities; military commands; State of Texas; Texas Higher Education Coordinating Board Eisenhower Program; NASA, U.S. Dept. of Energy; other gov. agencies; public and private industry; professional organizations; individuals; local school systems; and SYETP sponsors	◦ Intensive summer program ◦ Classes ◦ Field trips ◦ Guest speakers ◦ School university partnerships ◦ Class assignments and laboratory projects ◦ Scheduled examinations and final grades	Different sites have slightly different eligibility requirements but many students come from low-income, minority families No tuition or fee is charged.	• Identify and offer academic enrichment opportunities for middle and high school students with "high ability" who want to pursue careers in science, math or engineering	"The Texas Prefreshman Engineering Program: Filling the Pipeline for Workforce Diversity," Manuel P. Berriozabal	The Texas Prefreshman Engineering Program consists of community and 4-year colleges working with middle and high school students to better prepare these students for science, math, and engineering careers. There are several programs across the state. Summer programs focus on abstract reasoning, problem solving, and career options, and include guest speakers, field trips, and academic courses.

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Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
NJ College Bound Program (1986)	NJ	$2.9 million annual state appropriation (part of the Governor's budget)	• Academic classes • Summer programs • Counseling • Mentoring • Tutors • Parent involvement • Career exploration • Middle school programs	"Urban/minority youth" grades 6-12 who are "historically underserved or underrepresented and who are located in 'special needs' school districts as identified in the 1990 Quality Education Act"	• To provide support in the form of grants to precollege "educational enrichment activities" that help to ensure high school graduation and the pursuit of college in science, math, and technology	"Evaluation of the New Jersey College Bound Program: 1997," Carol F. Stoel (Sponsored by the NJ Commission on Higher Ed.)	The program exists at 13 sites in NJ colleges and universities. Grants are provided by the NJ Commission on Higher Ed with funds from the Governor's office to enhance academic achievement in the sciences in middle and secondary schools. Grants range from $42,400 to $938,700. Money goes to on-campus programs that include academic and support services for underserved minority students. Programs and program missions vary by institution. All programs have academic enhancement initiatives, some involve parents, some are during the summer – but most are during the academic year, some have college counselors and mentors.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Post-secondary Enrollment Options Program (1985)	MN	1985 State Legislature created program – part of the Governor's "Access to Excellence" school reform package	• College courses ◦ Scholarship assistance • College credits • Puts resources in the hands of high school students and parents rather than secondary school administrators • Credit for college courses ◦ Creates opportunities for high school students and some adults to take college courses ◦ Admission controlled by colleges to their courses	High school juniors and seniors enrolled in MN public schools or adults 21 years or older who do not have high school degree	• Provide opportunity for academic advancement and encourage "rigorous academic pursuits" for high school juniors and seniors by having them attend post-secondary classes at "state expense" • "Promote rigorous academic pursuits and provide a variety of options for 11th and 12th grade students by giving them an opportunity to take postsecondary classes at state expense" • Make schools more responsive to student needs and interests	Postsecon-dary Enrollment Options Program, 3/1996 Program Evaluation Division, Office of the Legislative Auditor, State of Minnesota	In order to offer high school students more challenging and varied courses, the state of Minnesota provides funding for students to take classes in colleges or universities of their choice. These institutions include private colleges, nonprofit vocational schools, and "accredited opportunities industrialization centers." Funding is re-allocated from the secondary school to the postsecondary school, and students receive postsecondary credits.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Neighborhood Academic Initiative (1991)	CA	University of Southern California; foundations	• Neighborhood initiative • Parent involvement • Daily classes • Saturday classes • Counseling • Mentoring • Scholarships to USC • Recruitment/ Selection Process • Mission "students as scholars"	Low-income students from the community surrounding USC (heavily Hispanic and black) who express desire to go to college	• "Untracking" students who have been traditionally labeled "at risk" and helping them to achieve academically	"Tracking School Success: Preparing Low Income Urban Youth for College," William G. Tierney	NAI takes 40 7th grade students each year and works with them until they graduate from high school. Students are selected because of their "willingness to learn" and parent commitment to them as "scholar." Students attend a 2-hour class in math and English every day before the regular school day starts and 4-hour Saturday academies where they focus on computer literacy, study skills and "socioemotional issues." Parents also take part in a number of Saturday morning sessions. Students meet twice weekly with tutors. Counseling is a big part of NAI. Students receive help with college applications, tests, etc. If students meet entrance criteria, they can receive scholarships to USC.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Kids to College program (K2C) (1992)	MA	Private/Sallie Mae	• Day trip to colleges • College-school partnership	6th graders attending selected schools in MA	• School-based initiative with a curriculum that introduces 6th graders to college campuses "arming them with information and resources to make the goal of going to college a reality." This program hopes to raise "students' expectations about going to college and about career possibilities."	None	Schools and colleges are paired based on location and 6th grade classes of students are exposed to higher education through special curriculum materials and activities. These activities include visiting a college campus. The program is run by The Education Resources Institute (TERI), but is a collaboration between the Higher Education Information Center, the Association of Independent Colleges and Universities in MA, the Educational Opportunities Center in Worcester and Springfield, the Lowell Early Awareness Program, and Sallie Mae.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Milwaukee Parental Choice Program (1990)	WI	Public (state and federal)	• Scholarships • School Choice	Family income below 1.75 times the national poverty line.	• Publicly funded school voucher program to increase schooling options for low-income families and to increase school completion rates.	Celelia Elena Rouse, Princeton University, and NBER January 1998	Publicly funded school voucher program to increase schooling options for low-income families and to increase school completion rates. Funding of public schools is related to number of students. Provides incentive for schools to improve, raises the level of education.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Baltimore College Bound Program	MD		◦ Presentations on college to 9th and 10th graders ◦ Counseling about college on individual basis to 11th graders ◦ Last-dollar scholarships	Serves college-bound students.	• To increase the numbers of high school students who apply, enroll, and graduate from college through counseling and scholarship assistance.	none	In class presentations made by College Bound advisors in 9th and 10th grade classes, help to motivate kids to consider college as an option for their future. For students in 11th grade, CB counsels students in the college application process and college entrance exams. Also provides guidance to students in financial aid and offers last-dollar support to seniors.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Martin Luther King Jr.-Cesar Chavez-Rosa Parks Initiative (1986)	MI	State	• Exposure to college life/housing • Exposure to college academics • Information counseling • Travel money • Bridge program	Public school students grades 6-11	• "Enrollment of a significant number of African American, Latino, and Native American students in college preparatory course in the 35 targeted school districts in Michigan."	Boyne County Research Services 1995	1. College Day Program – introduction for secondary students and parents to college campuses and information. Each student spends a day, overnight, or several days on a college campus and receives information about college and university options. 2. Select Student Support Services – funding for universities to develop retention programs. 3. Visiting Professor Program – funding to universities to bring in scholars. 4. Future Faculty Program – develop diverse faculty for secondary schools.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Prep for Prep (1976)	NY	Funded entirely through private donations from corporations, foundations and individual sponsors	◦ Network of elementary and junior high schools used to recruit students ◦ Two 7-week summer sessions ◦ After-school Wednesday and all-day Saturday classes during the school year ◦ Placement in independent schools (36 day schools and 10 boarding schools) ◦ Scholarships ◦ Post-placement counseling and activities ◦ Leadership development (personal, academic and college counseling) • Campus visits for 11th and 12th graders	Underrepresented (minority) junior high school students and elementary school students	• To develop the leadership potential of young people from underrepresented groups in society by identifying talented students and placing them in independent schools – with a support program	none	Each year 155 fifth graders and 60 seventh graders are admitted into day schools and boarding schools, respectively. Prep tries to provide talented young students with a challenging academic experience and the supplementary support needed for them to excel in school.

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Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
College Bound Program (1989)	National	General Electric	• Grants made to schools to work on increasing college-going rates of students • Volunteers from GE • Counseling • Mentoring • Test preparation • Campus visits • "Job shadowing" • Supplemental instruction • Tutoring • Special academic courses • Saturday workshops • Curriculum reform (components listed above varied by school)	At-risk students (although this varied by school)	• To increase the college-going rate at 11 schools receiving College Bound grants from GE	"RAND Formative Assessment," Susan J. Bodilly, Susanna W. Purnell, and Paul T. Hill	College Bound is a grant program intended to increase the college-going rate at 11 high schools situated near GE facilities in the U.S. Participating schools agree to double or significantly increase the college-going rate for a particular group of students. Each program includes volunteers recruited from the nearby GE facilities.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Summerbridge (1978)	National	Privately funded: foundations, corporations, and individual sponsors	• Six-week, full-time, academic summer program • After school or weekend support throughout school year • Tutoring • Mentoring • Academic counseling and advocacy	"Motivated elementary and middle school students with limited educational opportunities"	• "To empower students to succeed in rigorous academic high school programs that will enable them to attend strong colleges" • "To empower high school and college students to fully experience the challenges, exhilaration and realities of teaching" • "To empower all students to take ownership of their education and become leaders within their programs and schools"	none	Volunteer high school and college-age students lead classes that provide younger student participants with challenging academic experience. Students are given homework and exams. Program is free to all participants. Classes are conducted in physics, literature, African American history, Japanese, and other subjects. The intention is to get students excited about learning and about teaching. There are currently 38 Summerbridge programs.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Urban Partnership Program (1989)	national	FIPSE; Ford Foundation	Partnerships between institutions of higher education and public schools	Varies by project	"To broaden postsecondary opportunities for at-risk students with college potential and to do so in a way that fosters systemic change"	none	The program supports partnerships among schools, colleges and universities, parents, and the community. It identifies and supports "feeder patterns that connect primary, middle and secondary schools with one another and with colleges and universities."

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Gaining Early Awareness and Readiness for Undergraduate Programs (Gear Up) (1998)	national	U.S. Department of Education; Ford Foundation; National Center for Urban Partnerships	• Technical assistance workshops • Online information resources • After school programs • College visits • Academic enrichment • Partnerships between colleges and junior high schools • Mentoring • Tutoring • Counseling	Low-income youth in middle schools	• "To encourage more young people to have high expectations, stay in school, study hard and take the right courses to go to college"	none	Gear Up encourages colleges to partner with middle schools in low-income communities to better prepare kids for college. Gear Up is a competitive grants program.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
College Kids (1994)	CA	Foundation, corporate, individual sponsors	• After-school programs • Academic enrichment in math, social studies, language arts, and science • Parent volunteers • College prep curriculum • Parent programs • Mentoring (connecting students to young professionals)	Low-income students	• To help young people from low-income backgrounds to gain access to college	none	College Institutes are led by parents, community leaders, university faculty, business leaders, or elementary school faculty. These institutes offer students a chance to improve their chances of attending college by providing academic and social enrichment activities and classes. Three College Kids sites exist – Los Angeles, San Mateo, and San Diego. Programs involve hands-on, interactive, and small group learning environments.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Monterey Bay Education Consortium (MBEC)	CA	UC Santa Cruz, Kellogg Foundation, Bank of America (some supporters)	• Provides critical information to parents, teachers, and community partners to help children work toward college • Ongoing evaluation • Curriculum development (see "Kids Around the University" • Community involvement • Website	All students in the Monterey Bay area	• To increase the "levels of educational attainment of all students in the region" of the Monterey Bay area	none	Focused on the Monterey Bay region, MBEC tries to increase the levels of "educational attainment of all students in the region." The public institutions of education in the area have formed an alliance to work with young people.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Early Identification Program (1982)	WI	WI Department of Public Instruction	• Academic enrichment workshops and skill building • Parental involvement • "Curriculum guidance for minority and disadvantaged middle school students" • Pre-college programs • Career exploration program • Counseling • Tutoring • ACT preparation • Information about college and financial aid • Assistance with college application process and citizenship requirements • Annual recognition programs	Minority and disadvantaged middle school and high school students	• "To identify potential academic problems before they arise and to recognize academic achievement" • To help students achieve their career, employment and college goals • To reduce high school attrition	none	Students are selected in 8th grade by guidance counselors to be in the program. Students stay in the program until they graduate from high school. Parents, college and university personnel, guidance counselors, teachers, administrators, cbos, and churches form a network to help students access opportunities to advance their career and educational goals. The program focuses mostly on counseling and advising, and on providing academic skill building and enrichment workshops.

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Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Stress on Analytical Reasoning (SOAR) – one program of the Summer Science Academy for High School Students (1988)	LA	Xavier University; outside foundation support and sponsors including the Howard Hughes Medical Institute, the Bureau of Health Professions, and the Joseph and Florence Roblee Foundation (donations are also made by Xavier faculty)	• Residential program • Daily quizzes • "Rapid turnaround" in grading • Problem solving • Two hours of homework daily • Emphasis on vocabulary and reading skills • "Group competitions" to encourage peer support based on academics • Students as group leaders • Student tutors • Parent orientation • Weekly report cards sent to parents • Awards ceremony • Social activities	Pre-college students (mostly black female students apply.)	• To increase the numbers of black students prepared for and entering college in the science fields (SOAR originally began as an effort to reduce freshman attrition rates in science courses at Xavier U. and to increase their success in math courses.)	Bioscience article "Minorities in the biological sciences – the Xavier success story and some implications," JW Carmichael Jr., Deidre D. Labat, Jacqueline T. Hunter, J. Ann Privett, and John P. Sevenair	SOAR is a summer program that focuses heavily on academic skill building in order to better prepare student participants for college.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Early Identification Program (EIP) (1987)	VA	George Mason University; school superintendent's office	• Summer academic program • School-year tutoring • Saturday enrichment • SAT prep • Parent involvement • College application assistance	High school students with "uneven academic records" who are at risk of "not successfully completing school" and most will be first-generation college students. EIP is targeted toward minority students.	• To help able but at-risk high school students successfully complete high school, apply to and be admitted at college	Westat "Reaching for College" case studies evaluation book, 1992	Virginia's EIP program is a collaborative program between George Mason University and the Fairfax County Public schools, which works to help disadvantaged minority students to pursue a college education. Students are identified in the 8th grade and then participate in programming that takes place on the college campus. Teachers from the university as well as from the public schools are paid to teach the summer and after school programs. Three local public school districts are involved and each district has a coordinator.

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Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
College Now (1984)	NY	State	• CUNY placement test • College-level courses • Remedial courses	"Moderate achievers," define as high school students whose averages fall between 65 and 85 (D and B).	• To ease the transition from high school to college for moderately achieving students who may not have considered college an option	Westat "Reaching for College" case studies evaluation book, 1992	College Now is a partnership between CUNY, Kingsborough Community College, and 17 NYC public high schools. The program assesses the level of readiness for college among high school students who are moderate achievers and then provides them with remedial and college-level courses to better prepare them for college and to ease the transition from high school to college.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Biomedical Sciences Preparation Program (BioPrep) (1982)	AL	University of Alabama; public and private funding	• Professional development for teachers • Campus visits • Assistance with applications to college and financial aid forms • Parent involvement	Disadvantaged rural high school students "whose schools lack a rigorous college-preparatory curriculum"	• To help disadvantaged high schools students to pursue a career in medicine or health sciences by providing a college-prep curriculum—with the hope that these students would return to their communities to establish their careers.	Westat "Reaching for College" case studies evaluation book, 1992	Students in BioPrep are selected in 8th grade based on strong academic performance and teacher recommendations. These students then participate in an accelerated core curriculum (designed by BioPrep) through their high school years. The university provides a summer program for these students and the teachers who teach the BioPrep curriculum.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Early Outreach Program (1980)	IL	University, state, private and corporate donations; Mayor's office funds summer job program	• Saturday academic program • Tutoring • Counseling • Financial aid • Parent involvement • Assistance with college applications and forms	Junior high school and high school minority students	• To encourage minority students to pursue college and professional careers	Westat "Reaching for College" case studies evaluation book, 1992	The focus of Early Outreach is a Saturday morning "college" program that provides classes in math, science, engineering, writing, and public speaking. The program also has summer institutes, and offers career development opportunities such as internships and summer jobs. Early Outreach also employs a parent program that meets once a month to hear guest speakers, plan events or raise money for scholarships. The program is based at the University of Illinois at Chicago.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Step to College/ Mission to College (1985)	CA	San Francisco State University; some high school money; some federal money from Title VII; some foundation support.	• College-level classes • Tutoring • Counseling • Followup in college • College prep curriculum • Professional development for faculty • Bilingual curriculum/ programs	Underrepresented minority high school students	• To "create a culture of college-going" among students who may not believe or realize that college is for them	Westat "Reaching for College" case studies evaluation book, 1992	High school seniors take college-level classes for credit and younger students are involved in a variety of program activities including "academic preparation, cultural awareness, skill training, and social support." Some students who finish the program later become tutors and peer counselors at their former high schools.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Project Step (1981)	CA	FIPSE; private and corporate donations/ grants	• Partnership of administrators, college faculty, principals, teachers, parents and students • Curriculum development • Professional development • Counseling • Tutoring	All students, "especially underrepresented minority students"	• To improve academic preparation of all students in math and science • To develop teachers of math and science • To develop education reform models • To establish permanent school-college partnerships	Westat "Reaching for College" case studies evaluation book, 1992	Project Step finds funding to distribute to academic prep programs in the district. It encourages and supports the development of networks and partnerships between educational factions of the district and promotes programs that reflect the philosophy of Project Step. The dissemination of information is a major part of Project Step's strategy.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
21st Century Scholars Program (1990)	IN	State; Lily Foundation	• Scholarship assistance; tuition free at public universities • Funding is equal to public tuition if student goes to private institution	Indiana students	• To reduce drop out rates • To dramatically increase the numbers of students in Indiana who go to college • To reduce the cost barriers for low-income students • To decrease drug and alcohol use • To improve economics in Indiana	Statewide data on high school retention, college preparation and enrollment; scholarship funds expended, student test scores; etc.	8th graders pledge "good citizenship" and are guaranteed the cost of 4 years of college in an Indiana public college. If a student chooses to attend a private Indiana college, the student will receive the same amount of tuition as he would if he went to a public institution. Described as a shift from "intensive" program to "extensive" intervention on the part of the state. Private donors, such as Lily, are more engaged in the intensive aspects of programming. The state utilizes technology to gather data on students (including needs assessments given to students to pinpoint their counseling needs) and to disseminate information to schools and parents. Also, extensive investment in test fee waivers and scholarships for low-income students (need-based) to reduce barriers for students who meet college entrance criteria.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Indiana Career & Postsecondary Advancement Center (ICPAC) (1986)	IN	State (Lilly Foundation also supports some efforts)	• Extensive information gathering and dissemination system that allows high school counselors to pinpoint needs of students and link them to available services. (Lilly Foundation provides funding for a number of programs providing intensive service.) High aspirations campaign and up to 100 percent scholarships for low-income students. • Toll-free hotline	Indiana students	• To dramatically increase the numbers of Indiana students who go on to higher education and to reduce the cost barriers for low-income students.	Statewide data on high school retention, college preparation and enrollment; Scholarship funds expended, student test scores, etc.	Described as a shift from "intensive" program to "extensive" intervention on the part of the state. Private donors, such as Lilly, are more engaged in the intensive aspects of programming. The state utilizes technology to gather data on students (including need assessments given to students to pinpoint their counseling needs) and disseminate it to schools and parents. Also, extensive investment in test fee waivers and scholarships for low-income students (need-based) to reduce barriers for students who meet college entrance criteria.

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Project Grad (1993)	TX	Houston school district; considerable corporate sponsorship	• Consistency management & cooperative discipline (CMCD) • Move it Math (MIM) • University of Chicago Secondary Math program • Success for All & Cooperative Integrated Reading and Comprehension (CIRC) • Cities in Schools • Scholarship program	Entire feeder school network. three now in program including elementary, middle, and high schools	"Produce college-bound high school graduates of distinction." Love for learning, high academic expectations, strengthened skills, and ultimately college attendance.	Annual evaluations include pre-post data on school climate measures and student outcomes with comparison schools on TAAS and Stanford 9, high school graduation and college matriculation data	Comprehensive program begins in first grade, builds students' academic skills and focuses on teaching students self-regulation and motivation (classroom management). Program then moves into middle school math. Cities in Schools provides social support services for families. At the high school level, the primary program element is the scholarship program, including visitations to children's homes by community volunteers; and scholarships.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
Puente (1993)	CA	State, University of CA, and some foundation. Per-student cost about $500 per annum	• 2-year English class • 4-year counselor daily • Mentoring • Classes • Field trips	Targets full range of students who exhibit desire to go to college. Students must have good school attendance. Entering GPAs range from 1.6. to 4.0.	Increase the numbers of Chicano students going on to 4-year college and increase their competitive eligibility for UC	4-year evaluation including matched controls comparing retention, GPA, college prep courses, and college enroll-ment. Statewide data on attitudes toward school, higher ed.	Students are selected as incoming freshmen and attend a 2-year college prep English program with the same cohort and teacher. The program focuses on writing skills and incorporates Latino literature. Program counselors ensure that students take college prep courses, learn about test taking and are prepared for college. Program includes field trips to colleges, speakers, etc. There is also a community mentor, usually a prestigious Latino/a.

Name and date founded	State	Funding	Main components	Student eligibility	Mission/goals	Data	Program description
AVID (1980)	CA and several other states	State and K-12 schools. Per-student cost approx. $625 annually	• Additional classes • Guest speakers • Field trips • "Untracking" • College prep	Average to high-scoring students (in reading) who are under-performing (C average) but who express desire to go to college.	To increase the number of low-income and under-represented students who are given access to college prep courses and who go on to college.	Program graduates from San Diego, CA compared to all students in the same district and the state for college matriculation.	The AVID class can be taken for 4 years of high school. AVID teachers are trained in study skills, college prep counseling, and "motivation." College tutors are provided. Students are "untracked" into college prep courses. Guest speakers and field trips to colleges are also part of the program.

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